

Successful Government Responses to the Pandemic: Contextualizing National and Urban Responses to the COVID-19 Outbreak in East and West

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ABSTRACT

This article discusses national and local strategies for confronting COVID-19 pandemic. The analysis sheds light on how societal context, institutional arrangements, knowledge culture, and technology deployment manifest in national responses to the pandemic. Discussion describes country cases from East and South East Asia, on the one hand, and from Europe and Asia-Pacific, on the other. The overall impression is that Asian cases reflect proactivity and diligence, while Western responses are reactive and more often than not slightly delayed. Both country groups include successes, while the overwhelming majority of global benchmarks are Asian. As the management of COVID-19 crisis is essentially a multi-level governance issue, discussion about national strategies is supplemented with a glance at the role of cities. The COVID-19-related urban challenges revolve around increased interest in urban safety, creative approaches to and the uses of urban space, the rise of digital urban platforms, and deeper insights on citizen engagement.

KEYWORDS

Asia, Asia-Pacific, Containment, COVID-19, Europe, Government, Mitigation, Pandemic, Response, Strategy, Urban Response

1. INTRODUCTION

The year 2020 will be remembered as the year of the global spread of coronavirus disease. It has made a global impact not only on health but also on education, social life, economy and public governance. This situation is the most recent reminder of the need to foresee the potential threats to humanity in the global age. One way to conceptualize pandemic is to see it as an instance of risk society that emanates from the pores of late modernity and its globalizing tendencies.

Every country designs and implements its anti-contagion policies and interventions through some kind of historical, context-specific pathway, which includes various development stages, learning from and negotiating with others, and the diffusion of ideas across governments. The key actors that inform, prepare and make decisions on such policies, are conditioned by contextual factors, including institutional landscape, cultural orientations, economic conditions, and political styles. In

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the times like the COVID-19 crisis, particular additional elements to such a context include a high degree of uncertainty, sensitiveness of political situation, disputes over stringent policy measures, and uncertainties regarding the duration and termination of exceptional measures. Another feature that characterizes pandemics is the likely fatality of government's non-decision making. (Weibel et al., 2020.). In short, from a public policy and management point of view, COVID-19 has created an exceptionally pressing policy making situation (see e.g. Weible et al., 2020; OECD, 2020a; Kauzya & Niland, 2020; WHO, 2020b).

This article analyzes national strategies designed to combat the COVID-19 pandemic in the first half of 2020. First question is, what are the most characteristic features of national strategies and responses of countries to COVID-19 when seen through conventional East-West dichotomy. Furthermore, to what extent their approaches can be explained by these two different societal and cultural contexts. As crisis management is a multi-level challenge, discussion continues with a brief investigation of the role of cities within given national frameworks.

The research strategy resembles descriptive multiple case study, even though the "cases" are used only as exemplifications derived from an electronic media content analysis. The findings of national and local cases were analyzed against academic and professional views of government responses to epidemics, with special reference to strategies that aim at minimizing the risk of transmissions and slowing down the spread of infectious diseases. The aim of such an analysis is to make sense of an exceptional case of COVID-19 regarding government policies, and provide tentative empirically grounded insights into understanding and evaluating the strengths and weaknesses of the factual policies adopted by case countries and further assessing tentatively the relevance of contextual interpretation along East-West dichotomy.

2. COVID-19 PANDEMIC

Coronavirus disease 2019, abbreviated to COVID-19, is a shorter name given to a novel virus identified as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). It is an infectious disease caused by then new coronavirus that started to develop from Wuhan, China, in late 2019. It causes a sudden respiratory infection, which can be mild especially among children and healthy adults, but can be fatal to old people as well as those with underlying medical condition. Some 20-30% of infected people have required hospitalization, about 4% being seriously ill and for some of them the disease being fatal. As it is a new virus, nobody has prior immunity, which means that the entire human population is potentially susceptible to COVID-19 infection. (ECDC, 2020.)

The story of COVID-19 started with the virus that originated in Wuhan, China. The earliest registered deaths took place in the city in November 2019. By the end of the year, when Chinese authorities first reported it to the World Health Organization (WHO), it had already spread considerably. On 30 January 2020, WHO declared a Public Health Emergency of International Concern and, on February 11, baptized the virus as COVID-19. As situation worsened, on March 11, the WHO declared COVID-19 a pandemic (on the concept of pandemic, see Yamamoto, 2013; Doshi, 2011; Morens et al., 2009). By that time, it had become clear that the spread of the virus was likely to continue and turning the tide would require dedicated measures throughout the world.

From Wuhan the virus started to spread to different countries with different scale and pace (Brahma et al., 2020). The virus spread to nearby countries and Asia-Pacific, and soon also to southern and central part of Europe and the USA. Infections increased exceptionally quickly in February in Italy, making it number three in the world after China and South Korea in terms of number of registered infections. In March, Iran became one of the special cases with increased number of infections. At that time, situation in many European countries started to be alarming, most notably in Spain, followed by considerable increase in confirmed cases in France and Germany. In the latter half of March situation in the USA started to worsen considerably. During April and May the virus became genuinely global, spreading to all continents. In May-June 2020, many countries started to

prepare the return to normal, even if the assumed second wave of coronavirus casts a shadow over such inspiring moves.

3. STRATEGIC GOVERNMENT RESPONSES

Responses to COVID-19 vary from country to country due to their unique pathways, which makes their similarities and differences an interesting issue in political, policy, management and administrative sciences. Such differences cannot be explained only by the policy designed by the government in power and the values on which it bases its decisions, when weighing between, let's say, human lives vs. economy, individual freedom vs. common good, or democracy vs. efficiency. There is a range of other factors to be taken into account, such as the initial conditions and early development of the outbreak of the disease as it unfolds, the global and regional connectedness of the country especially regarding the connections with the birthplace of the virus, COVID-19 epicenters or superspreading events (Frieden & Lee, 2020; Kwok et al., 2020), and the national and local cultures that affect the spread of the virus through customs, the patterns of social interaction and norm compliance. In addition, this is a rapidly changing phenomenon, which due to accidents or the behavior of a few individuals may provide surprises even to countries that have prepared well for these kinds of crises.

According to the WHO (2020a), the overarching goal is for all countries to control the pandemic by slowing down the transmission and reducing mortality rate. The classification of factual interventions and measures vary depending on whether emphasis is on virus-driven approach, the phases of the epidemic, types of actions, or the identified functions or elements of the management of the epidemics. For example, WHO's (2020a) global strategic objectives to respond to COVID-19 is a collection of actions – mobilize all, control cases, suppress community transmissions, reduce mortality and develop vaccines and therapeutics – that contribute to the abovementioned overarching goal.

As long as there is no effective vaccines that can ease the situation and especially protect the most vulnerable groups, containment and mitigation measures are the most important public sector interventions that potentially minimize the health consequences of the disease (OECD, 2020b):

- *Containment strategies* aim to minimize the risk of transmission from infected to non-infected individuals in order to stop the outbreak. This may include actions to detect cases early on and trace an infected individual's contacts, or the confinement of affected persons;
- *Mitigation strategies* aim to slow the disease, and to reduce the peak in health care demand. This may include such measures as social distancing, including lockdowns, and improved personal and environmental hygiene.

Containment and mitigation strategies act to impede the speed of the virus by suppressing the outbreak and by slowing down the disease. As the coronavirus continues to spread and the rates of testing vary from one country to another, public health officials should shift from a containment mindset to a mitigation mindset. When a small number of infected patients are in concentrated locales, containment strategies – in essence, quarantine – can halt the spread of infection by isolating infected or exposed individuals from the general population. However, well-managed disease containment requires special facilities and sufficient numbers of healthcare personnel, which will not be available if the virus continues to spread as happened in many countries with the COVID-19 during the spring 2020. (Parodi & Liu, 2020.) In such a case the approach should change into mitigation, such as voluntary and mandated quarantine, the banning of mass gatherings, closure of educational institutions, and isolation of households, districts or entire cities (Anderson et al., 2020). The aim is to slow the further spread of the virus, provide patients with the right level of care, and tailor isolation measures to minimize transmissions (see e.g. Walensky & del Rio, 2020; Hasell, 2020).

Most mitigation measures are non-pharmaceutical interventions that can serve mitigation purposes (“flattening the infection peak”) but can also be adopted within a more ambitious framework known

as *suppression*, which aims at reducing the basic reproduction number R_0 below 1. A characteristic aspect of suppression that goes beyond mitigation is its stringent approach that, after being able to halt the virus, aims at suppressing new cases and as a next step eliminating the virus completely. The challenge is that while being effective strategy, it comes at a significant economic, social and non-COVID-19 health cost, which makes it difficult to sustain over a long period of time (Coghlan et al., 2020). Beside the above basic strategies, there are less frequently used terms that highlight some particular aspects of the government approach, such as cluster strategy (Furuse et al., 2020), agile-adaptive strategy (Janssen & van der Voort, 2020), hybrid strategy (Finnish Government, 2020), and so forth. Whatever is the chosen strategy, there is empirical evidence to claim that non-pharmaceutical interventions were associated with considerably reduced transmission of COVID-19 and contributed to the achievement of positive health outcomes (Cowling et al., 2020; Hsiang et al., 2020).

An alternative to direct, more or less hardline government intervention is a soft policy based on the idea of *herd immunity*, which is actually a natural way of protecting those without immunity from viruses. However, it becomes a questionable strategy at the time when there is no vaccination available, especially if the disease is fatal to special groups, such as senior citizens and people with chronic medical condition. In addition, it is likely that hospital intensive care services would lack the capacity to deal with such a sudden, large inflow of severely ill people (OECD, 2020b).

The lists of government measures concretize the actions available within a chosen anti-contagion strategy. Most widely discussed measures include school and workplace closures, cancellations of public events and restrictions on public gatherings, stay-at-home restrictions, restrictions on travel, testing and contact tracing, and public information campaigns (Ritchie et al., 2020). We may group such actions into following activity categories (WHO, 2005; OECD, 2020b):

1. **Knowledge Base:** Communication, awareness campaigns, surveillance and detection;
2. **Clinical Management and Medical Treatment:** To combat disease;
3. **Hygiene and Disinfection Methods:** Handwashing and disinfection of contaminated surfaces;
4. **Prevention of the Community Transmissions:** e.g. facemasks, social distancing and home confinement;
5. **Authoritative Suppression Measures:** Travel restrictions, lockdowns, and isolation of areas;
6. **Maintaining Essential Services:** Health and social care, mental well-being, food supply, etc.

These form a set of interrelated actions, which affect through knowledge, treatments, disinfection, prevention, suppression and integrated services. All such actions must be determined by and adjusted to local political, economic and social conditions. For the same reason it may be that some methods, such as stringent lockdown or curfew, may be efficient but not necessarily politically acceptable in the given context (Anderson et al., 2020). The severity of crisis and lessons learned from successful country cases affect considerably such judgments, as was obviously the case with many European countries that became gradually open to hardline measures.

4. GOVERNMENT RESPONSES IN EAST AND WEST

The selection of case countries is based on two criteria. First, countries should be relevant in terms of government responses to COVID-19 and form a few rather small and coherent groups. Second, the selected cases should have been recognized in the news and academic journals, emphasis being on success stories and benchmark cases. However, discussion should also include a few epicenters of the spread of the virus in order to have enough diversity in terms of the initial conditions and magnitude of the outbreak. It goes without saying that failures, even if not emphasized in this article, can teach us extremely important lessons of what not to do in the time of crisis (see e.g. Boccia et al., 2020).

In the interest of narrowing down the group of countries as well as the contextual differences concerning resources and overall capacity, following discussion concerns mainly developed countries. Based on preliminary media analysis, two particular groups seem to represent potentially distinguishable country groups with different approaches to COVID-19, those of developmentalist Asian countries and liberal Western countries (on such a comparative setting, see e.g. Brown et al., 2011; Wang & Liu, 2018; Jelavic & Ogilvie, 2010).

The selection of country cases is built inductively on the most distinguishable and widely discussed cases of government response. The first category of countries with early success include Vietnam, Taiwan and South Korea. Other Asian countries that have been positively featured in the news are Hong Kong SAR and Singapore (Normile, 2020a). We may also include China as the epicenter of the global outbreak, which handled the situation effectively (AITakarli, 2020). Japan is known as a deviation from East Asian model due to its cluster approach and low testing rate. These countries and territories include four Asian Tigers plus Japan, Mainland China and Vietnam (Gibney, 2020).

Regarding Western countries, Italy and Spain have been among the most widely discussed cases due to the early outbreak of COVID-19 in their soil. As affluent and well-equipped countries in Central Europe we may use two federal republics, Germany and Austria. The Nordics form a group of well-organized and successful countries by almost any criteria in the Northern Europe. Finland, Denmark and Iceland are conventional Nordic cases, while Sweden is a deviation with its soft strategy and an attempt to build up herd immunity. The above three European country groups represent different administrative and political traditions, referred to as Southern European or Napoleonic model, Central European or Rhineland model and Nordic model.

As one of the most widely discussed Western case in terms of successful government intervention is definitively New Zealand, which together with Australia represent in this comparison white Commonwealth countries. Among Western nations, New Zealand has followed arguably the most effective coronavirus strategy. It was also the first Western country to announce itself coronavirus-free.

Understanding government intervention requires dynamic, longitudinal view of the phenomenon. Let us start, however, with a cross-sectional view of the coronavirus situation in June 2020 in selected countries presented in Table 1. It collects coronavirus statistics of the abovementioned countries. It is important to keep in mind that these data do not describe factual situation nor are they fully comparable. Data that describe confirmed cases depend on the frequency and ubiquity of testing, which have huge differences between countries.

4.1. Proactive Asian Countries

East and South East Asian developmentalist countries have some features that explain their responses to COVID-19. China is a special case for many reasons. It was the epicenter of the COVID-19 but represents now only a small fraction of the total of coronavirus cases in the world. Chinese government and people have made great efforts to limit transmission of COVID-19. Beside the quick mobilization of health care system, Chinese authorities expanded the preventive measures by announcing a lockdown of Wuhan and cities in Hubei province and the closing of the airports as well as suspension of practically all public transportations on January 24, 2020. Non-essential shops were closed and tight restrictions placed on people to force quarantine. Events gathering large crowds were cancelled and the reopening of schools and colleges postponed. These measures were accompanied by a massive disinfection campaign. Taken into account the exceptionally quick outbreak and spread of the virus within a densely populated country, China's measures were efficient (AITakarli, 2020; Tian et al., 2020).

Taiwan's response is a prime example of an efficient proactive coronavirus strategy. Taiwan had learned its lessons from the SARS outbreak, which led to the establishment of the National Health Command Centre (NHCC) and other units of the public health emergency structure (Su et al., 2017). Taiwan was proactive with the coronavirus epidemic, for it started to inspect plane passengers coming from Wuhan right after the pneumonia cases were announced at the end of December 2019

Table 1. Coronavirus cases, deaths and testing in selected countries in June 26-27, 2020

Country	Popul., Million	Total Cases	Tot Cases / 1M Pop	Deaths / 1M Pop	Tests / 1M Pop
<i>East Asia</i>					
Taiwan	23.8	447	19	0.3	3,183
Hong Kong	7.5	1,194	159	0.9	42,899
China	1,439	83,483	58	3	62,814
S. Korea	51.3	12,563	245	6	23,806
Japan	126	18,197	144	8	3,485
<i>South East Asia</i>					
Vietnam	97.3	352	4	0	2,826
Singapore	5.8	42,736	7,306	4	116,991
<i>The Nordics</i>					
Finland	5.5	7,172	1,294	59	42,504
Iceland	0.34	1,830	5,363	29	205,362
Denmark	5.8	12,636	2,182	104	169,387
Sweden	10.1	63,890	6,327	518	44,028
<i>Central Europe</i>					
Germany	83.8	193,785	2,313	108	64,605
Austria	9.0	17,477	1,941	78	64,875
<i>Southern Europe</i>					
Italy	60.5	239,706	3,965	574	85,394
Spain	46.8	294,566	6,300	606	110,426
<i>Asia-Pacific</i>					
New Zealand	5.0	1,519	304	4	73,655
Australia	25.5	7,558	296	4	87,373

Data: data collected from Worldometer (June 26-27, 2020).

and banned entry for Wuhan residents on 23 January 2020. Its measures included case identification using new data and technology, quarantine of suspicious cases and proactive case finding. The government took series of actions in January that aimed at securing the availability and affordance of surgical facemasks. A part of the policy package was a proactive identification of patients with severe respiratory symptoms utilizing information from the National Health Insurance database. Citizens were asked to report suspicious symptoms or cases via a hotline number. The authorities tracked down infected persons and mapped the cases. Educating the public about the coronavirus-associated risks and precautions had an instrumental role in the process (HealthManagement.org, 2020; Duff-Brown, 2020; Wang et al., 2020).

South Korea's case reminds those of other East Asian countries in terms of swiftness of responses. South Korea was unlucky with its early spreaders in the latter half of February 2020, which was traced to a Christian sect known as Shincheonji. Regarding early response, South Korea has followed 3T (Trace, Test, Treat) strategy (Kim, 2020). It relied on active, free and massive screening for symptomatic individuals, contacts and travelers. Schools were closed, working remotely was recommended, and large gatherings were banned. It is notable that there has been neither lockdowns

nor restrictions to movement to date. South Korea has relied on open health informatics, including disclosure of real-time information on COVID-19 by the government via dedicated websites, mass media, phone messages and mobile applications. In addition, with the help of open data, private sector actors have developed mobile apps to effectively disseminate disease information, most well-known apps being Corona NOW, Corona Map and Corona 100m in Seoul (Reynolds & Baeck, 2020). As of 19 March, there were approximately 85 drive-through testing stations, and nearly 20,000 people were tested every day, which was highest in the world at that time. It was also notable that people under compulsory self-quarantine were monitored through an app by government and police, and violators were punished. (HealthManagement.org, 2020; Moon, 2020; Kim, 2020.) In sum, an agile-adaptive approach, a policy of transparency in communicating risk, and citizens' voluntary cooperation were critical to the success of South Korea's anti-contagion policy (Moon, 2020). South Korea's response to COVID-19 stands out as a special case because it flattened the epidemic curve quickly without closing businesses, issuing stay-at-home orders, or implementing many of the stricter measures adopted by other high-income countries (Our World in Data, 2020).

Hong Kong and Singapore have been able to prevent widespread community transmission due to their successful containment strategies. Surveillance systems were readjusted to identify potential cases and their contacts, diagnostic tests were developed early on, and laboratory testing capacity was increased. There were various ways to selectively control travelers entering these countries. Just like Taiwan and South Korea, these two countries have put efforts to developing and utilizing relevant information systems. Singapore has introduced a range of measures to slow down the infection rate as early as possible, in which travel restrictions played a key role. Hong Kong's approach has been described as one of the most effective in the world, characterized by swift surveillance, quarantine and social distancing measures (HealthManagement.org, 2020; Gibney, 2020; see also Cowling et al., 2020).

Japan represents a special case in East Asia. It adopted a cluster approach – at least partly influenced by the emergency measures in Hokkaido – with an idea of identifying the clusters in which most of the transmissions take place, analyzing their characteristics, and taking targeted measures, i.e. eliminating large-scale transmissions (Furuse et al., 2020). It was rather risky move, but nevertheless worked fairly well at least in the first half-year period of the COVID-19 crisis. Such a thinking led to urge people to avoid the “three Cs” of closed spaces, crowds, and close contacts. A precondition for the successful implementation of such a strategy is extensive voluntary compliance. Social distancing became vital part of the agenda, even though the national government was actually slow to push for widespread social distancing. Related to this, facemasks were nearly ubiquitous, and they were said to be one of the factual reasons for the country's low death toll from COVID-19 (Reynolds, 2020). A notable feature of Japan's response was the lack of widespread testing. Its total testing rate remained one of the lowest among developed countries. In any case, it seems that the cluster policy together with social distancing and the use of facemasks was effective enough in eliminating large-scale transmissions (Normile, 2020b; Reidy, 2020).

Vietnam is a curious case in the sense that its 97 million people were almost completely saved from the virus in spite of being neighboring country to China. It has only a fraction of cases when compared with other larger countries around China and not a single death case to date. Vietnam had a small opportunity window for proactive move and it used it. It adopted an early preventive containment strategy, which may have looked an over-reaction at that time. Already in January, before it had any confirmed cases, the country started to prepare for actions. After the first confirmed case, its emergency plan was in place. It brought in travel restrictions, closed the border with China and increased health checks at borders and other strategic places. Schools were closed and remained so for several months. In addition, a labor intensive contact tracing operation was started. By mid-March, everyone who entered the country or anyone who had had a contact with a confirmed case, were sent to quarantine centers for two weeks, which was necessary as many infected people were actually asymptomatic. As with other Asian countries, people were generally willing to comply with

coronavirus restrictions. Such measures may be labor intensive and intrusive to a degree, yet for a country with limited health care capacity, they worked well (Jones, 2020).

4.2. Reactive European Countries

Coronavirus progressed at varying speed in Europe, which explains some of the differences in their approaches. This is not the whole story, however. There are cultural and political differences between let's say Italy, Germany and Sweden. Regarding European approach, most of the countries have adopted mitigation strategy (Gibney, 2020). European countries were rather slow in responding to the epidemic, but implemented eventually relatively stringent measures.

Two Mediterranean countries, Italy and Spain, became the early epicenters of infection in Europe. Their situation worsened quickly and dramatically, which implies that their responses were delayed. They were unlucky – or careless – with a particular superspreader event, the Champions League match between Atalanta BC based in Bergamo, Lombardy, and Spanish Valencia CF on February 19 in Milan, which unleashed unprecedented coronavirus hotspots in the Bergamo region within no time. Italy became a special case due to being the first Western country that experienced a massive outbreak of COVID-19. In any case, finally Italian government faced the need to take drastic measures to change the course of events. As situation worsened rapidly, on March 11, Italian Government approved a series of emergency measures to limit people's movement and social contacts. Especially in the beginning, people were not particularly supportive to the imposed restrictions (Ruiu & Ruiu, 2020; see also Boccia et al., 2020).

Spain was the second European country where the situation escalated. In the early March, Spain's top national security advisory body, the National Security Council, ratified a report that did not foresee the risk of a pandemic. Only some ten days later, Spain decreed a state of alarm to curb the spread of the coronavirus. Even if the bulk of the report was drafted months before its approval, this incident is most telling. This relates to the reason for delayed actions and indirectly also the experts' limited foresight and the inability of the bureaucratic machinery to react swiftly to emerging situation. (González, 2020.) Consequently, Spanish population was exposed to the virus without having full understanding of its seriousness. It is notable that in just about ten days from 4 to 14 March the number of confirmed cases rose from some 200 to 5,753, while during the same period the assessment of the "minimal safety risk" was changed into a hardline lockdown on the basis of the state of alarm declared by the Government. The lockdown was as hard as the government was realistically able to dictate. Even so, civilians did not stay indoors *en masse*, as indicated by the fact that by the end of May authorities had issued more than 1 million fines for lockdown violations (Vissner, 2020; González & de Arc, 2020).

Germany and Austria stand out as nations that adopted aggressive and early control strategies. They have seen a fraction of the deaths per capita from COVID-19 of many other European countries, such as Italy, France and Spain (Gibney, 2020). The protection of risk groups and the well-functioning health care system have kept the situation tolerable in terms of death toll. Germany's strength has been said to be in its facilitating and enabling environment (Wieler et al., 2020). Austria made a series of restrictive moves in March, which appeared to be successful. It presented in the early April Europe's first crisis exit plan (Robinet-Borgomano, 2020). Their situation reminds that of the Nordic countries, which followed balanced though rather reactive approach, as evidenced by Denmark, Norway, Iceland and Finland.

Iceland as the smallest Nordic country had best chances for effective containment strategy, which requires that emphasis is paid to testing and tracing the infected people and their contacts. Iceland followed WHO's recommendations in its strict policy of test, trace and isolate. Beside this, Iceland's strategy emphasized cooperation and coordination (Hsieh & Child, 2020) as well as the utilization of health informatics and latest technology, such as a government-backed automated tracing app (Johnson, 2020).

Denmark and Finland epitomize a typical Nordic approach, which emphasizes civic responsibilities while at the same time imposing reasonable restrictions. Denmark actually adopted a kind of suppression strategy that included social distancing, lockdown and screening of people with mild symptoms. In the mid-April, it gradually eased restrictions, focused on widespread testing using sixteen special testing tents. It re-opened day care and primary schools first in Europe. In all, its policy reflected a conventional mitigation strategy that aimed at limiting the spread of the virus and ultimately ensuring that the epidemic does not jeopardize the functioning of the systems of the welfare state (Marin, 2020). Finland had a fairly similar policy line, which is called a hybrid strategy, reflecting an idea of protecting people from the spread of the virus through targeted mitigation and suppression measures. Finland was rather slow in responding to the crisis, especially with travel restrictions. However, after realizing that it was difficult to control all the transmissions, the Government declared emergency and publicized the list of 19 strategic measures to combat coronavirus epidemic. One of the Government's principles has been to focus on targeted non-pharmaceutical measures the way that is least harmful to society. Finland followed the textbook-style "test, trace, isolate and treat" thinking, but did it in a rather flexible manner (Finnish Government, 2020).

Sweden remained the only country in Europe that followed a strategy that is essentially derived from the idea of herd immunity. It has tried to maintain as normal conditions as possible and minimize the impact of epidemic on the economy and everyday life. In short, Sweden had less severe restrictions than other Nordic countries and it relied heavily on population's sense of responsibility in creating a kind of socially generated mitigation effect. Even if Swedish Government is led by Social Democrats, its approach can be actually associated with libertarianism, for it builds its faith on individuals and minimizes state intervention. For example, it kept shops and cafes open, unlike other Nordic countries. By Nordic standards, the number of its confirmed infections and the death toll are very high. Its results are closer to Italy and Spain than those of other Nordic countries (Marin, 2020).

4.3. Proactive Commonwealth Countries in Asia-Pacific

Among the first truly positive news regarding the half-year fight against coronavirus is New Zealand's announcement that it eliminated COVID-19 in June 8, 2020. It lifted soon all restrictions for social distancing and on business, yet kept borders closed with mandatory isolation and continued using quarantine as the essential defense against the potential second wave of the virus (Baker & Wilson, 2020). What explains New Zealand's success? An undeniable background factor is the fact that New Zealand is a remote island with a relatively low population density. There were, however, swift government actions that appeared to be vital for combating the epidemic disease. The backbone of New Zealand's strategy was the lockdown. In the mid-March, when New Zealand had only 100 confirmed cases and no deaths, it closed its borders to foreign travelers and applied 14-day quarantine rule to people returning from abroad. Then, ten days later, it introduced full lockdown measures, which were strict by international standards. Restrictions lasted for over a month before the government started to ease them slowly. Another important factor was that restrictions and new rules were communicated effectively, which made it easier for people to understand and accept the reasons for exceptional measures. In addition, New Zealand's government followed the clear guidelines for dealing with a new virus, with an aim to find, test, isolate, and care for every case, and to trace and quarantine every contact. These kinds of measures proved to be good defense against COVID-19. Lastly, another beneficial move was the ramping up of testing capacity (Matthews, 2020).

Australia is among the most successful countries in the world in terms of its ability to combat the coronavirus outbreak. Just like with other countries, success may be temporary, but Australia was in any case able to turn the tide quickly. We may encapsulate its success into following factors: (i) efficient coordination, (ii) listening to experts, (iii) international border closures and quarantine, (iv) public acceptance of spatial distancing, and (v) the utilization of telehealth. Retrospectively, Australia did also a few mistakes, such as the sloppy handling of Ruby Princess cruise ship, which became country's largest single source of infection. Another matter worth reminding is that while

Australia banned foreign nationals coming from China quickly, it was slow to introduce further travel restrictions. Moreover, it faced challenges in fine-tuning its health system for the exceptional situation (Duckett & Stobart, 2020).

5. URBAN RESPONSES TO COVID-19 CRISIS

Even if cities due to their high density and connectedness may effectively facilitate the spread of infectious diseases, they also produce antidotes to such threats by making continuous improvements in the urban structure and infrastructures, and by ensuring economies of scale in the provision of medicaments, medical equipment and health services. Cities' dual role is sometimes associated with the dialectic forces of "urban health advantage" and "urban health penalty" that affect the health outcomes of cities. Accordingly, a "healthy city" is an extremely dynamic ecosystem that requires continuous improvement and monitoring. The health benefits of living in urban areas must be actively created and maintained by means of policy interventions (Vandecasteele et al. 2019, 58-65).

The current pandemic has raised an issue of city governments' ability to respond adequately to the crisis. The major actions have been taken by national governments, but the role of cities should not be underestimated, as many parts of the puzzle are organized or implemented by local and regional authorities. In reality, throughout the world, tens of thousands of local and regional authorities have responded to the crisis by giving stay-at-home orders or mask recommendations, or making decisions on closing schools, public facilities or non-essential businesses, just to name a few examples. In a small unitary state hardline measures may require state government's action, while in a large federal country metropolitan city may have a broad discretion in defining local responses. In any case, cities must address challenges on the ground with targeted and locally adjusted measures within the national framework (WHO, 2020b).

The challenge of COVID-19 is not only about immediate actions needed to combat the crisis, but also about providing new insights into urban planning, design and development. One of them is the renewed interest in resilience, sustainability, safety and wellness issues at local level. The other one is the role of digital platforms empowered by the crisis, and their impact on work, consumption and mobility, and through that on urban dynamism, vitality and sustainability. As put by prof. Michele Acuto, "Modern planning and civil engineering were born out of the mid-19th century development of sanitation in response to the spread of malaria and cholera in cities. Digital infrastructure might be the sanitation of our time." (Klaus, 2020; see also Acuto, 2020). Another message derived from our collective experience of COVID-19 is that cities are not ultimately about their physical structure but about their people. There is a continuous need to learn to engage and include people in designing their cities and generating social capital that makes our urban living better (Alraouf et al., 2020; see also Tavares & Stevens, 2020).

Most cities in the developed world have enough power, resources and expertise to determine local level responses within the national anti-contagion policy framework. Situation is rather different in poor areas, not to speak of many cities in developing countries. Urban problems with crisis management do not necessarily derive from density or connectedness but rather from poverty, insufficient local capacity of the health care system, and deprivation of the neighborhoods (OECD, 2020c). Regarding global urban agenda, COVID-19 pandemic has pointed the need to pay attention to urban water, sanitation and hygiene infrastructure, health and livability driven urban design, and devolving decision making system (Aki-Sawyer et al., 2020).

The impacts of COVID-19 crisis is perceived primarily as a national level issue with the key role given to national government due to the need for whole-of-government approach, legislative and executive power, sufficient resources and high-level expertise. However, local level is important for several reasons. The impact of the pandemic has a significant territorial dimension with important policy implications for managing its consequences. The knowledge of local conditions, culture and institutional landscape and vulnerable segments of local community is essential for a successful

crisis management. Moreover, city governments are responsible for critical aspects of containment measures, health and social services, economic development and public investment, putting them inevitably at the frontline of crisis management (OECD, 2020c).

Previous points imply that there is an obvious need for a combination of national and subnational measures as a precondition for an effective response to the COVID-19 public health, social and economic crisis. Leadership and coordination by national government is undoubtedly critical, but must be supplemented – following the subsidiarity principle – by efforts taken by subnational authorities according to their capacity (OECD, 2020c). It is noteworthy that cities' actions are not limited to restrictions or control measures, but include also creative solutions and urban innovations. As global discussion on COVID-19 strategies has focused almost solely on national issues, media provides a rather elusive view of cities' approaches to COVID-19 in Asia, Europe and Asia-Pacific. On the basis of global news, Asian developmentalist cities seem to be generally supportive to national efforts, eager to collect relevant data and generate social innovations, and inclined to smarten up their efforts with the help of new technologies. For example, the Seoul Metropolitan Government set the 24-hour Disaster and Safety Countermeasures Headquarters in motion from the early stages of the outbreak in the middle of February (Andrews, 2020). Seoul has gone further than many other cities in making information about the COVID-19 outbreak in the city accessible to citizens (Reynolds & Baeck, 2020). Taiwan is a good example of a country in which national government collaborates with cities and hospitals. On the other hand, many Asian countries have “soft authoritarian” regimes, most notably China and Vietnam, which implies that there are some limits to bottom-up responses. Japan has been a rather peculiar case in this respect, for cities have had a relatively low profile, which is at least partly due to central government's policies and the fact that cities have limited power to take firm actions (Ryall, 2020).

Western cities follow generally progressive, sustainable and inclusive policies. One of their characteristic features is the wide spectrum of COVID-19-related activities, ranging from online platforms to urban design. In Finland, for example, the implementation of most restrictive measures and the day-to-day management of the crisis situation is the responsibility of cities. Helsinki has been particularly attentive to most vulnerable population, especially the elderly (Wahba & Vapaavuori, 2020). In Germany, fight against COVID-19 has been led by the states and regional authorities that have taken care of policing social-distancing rules, dealt with business shutdowns and maintained the capacity of healthcare infrastructure. Besides such measures, cities like Berlin have sought urban and social innovations. For example, the city of Berlin has COVID-19 podcasts and videos for refugees in several languages. The CityLAB Berlin established a “Hack the Crisis” digital platform in order to facilitate the ideation and idea sharing relating to COVID-19. There is also an online platform in Berlin that coordinates neighborhood assistance. Bilbao in the Basque Country, Spain, has designed actions to support business and economic recovery. It introduced a 15-million-euro plan for social cohesion and economic, employment and cultural reactivation. (Cities for Global Health, 2020.) In Italy, Milan has announced an ambitious plan to reduce car use after lockdown. It has a plan to introduce one of Europe's most ambitious schemes reallocating street space from cars to cycling and walking (Laker, 2020). This is just a glimpse of how cities have responded to COVID-19. When the crisis is over and local communities start adjusting to post-COVID-19 world, cities will have critical role in supporting the return to “new normal” and revitalizing urban economies and communities.

6. CONCLUSION

COVID-19 responses by Asian and Western countries do not follow any straightforward models that could be designated as developmentalist Asian and liberal Western model. Interestingly, there is no clear correlation between country scores in Government Response Stringency Index and the effectiveness of policies, even though on average responses in Europe tends to be less stringent than the ones in East Asia (Ritchie et al., 2020). Furthermore, it seems that the success cannot be explained

by the type of regime, but by leadership and competence (Abuza, 2020). Having said that, there are apparent differences between these two internally diverse country groups due to their different histories, cultures and political systems. Asian countries have shown diligence and determination in their responses to COVID-19 crisis. It is noteworthy that most of the Asian countries have been hit hard by prior epidemics, such as SARS, which led to the improvement of their crisis management capabilities. Moreover, they accept certain degree of privacy violations if it is justified by public interest. Related to this, in Asia civil society shows high level of conformity and norm compliance, which is an obvious precondition for successful social distancing and lockdowns. Such preconditions give them a head start in responding to epidemic. Common denominators of successful responses among Asian countries seemed to have been early travel restrictions, quarantine arrangements, effective social distancing, efficient healthcare system and knowledge-intensive approach.

Europe is a diverse continent. European countries have different political cultures and different capacities and ways of dealing with crises. European countries are deeply concerned with the privacy and human rights issues as well as public acceptance and political correctness of government responses, which has been seen in public debates about the handling of COVID-19 crisis. The slowness of responses to increased transmissions was striking. However, as the crisis deepened, a certain degree of consensus emerged about the need of stringent measures to flatten the curve of the coronavirus pandemic. Among the Western countries, two white Commonwealth countries, New Zealand and Australia, form a category of its own. They benefitted from the remote location and relatively low population density as well as their efficient, non-corrupted and progressive governments. They were evidently swifter with their responses than let's say Southern European countries, achieving results comparable to those of leading Asian countries to date.

Regarding the spread of COVID-19, it is in many respects an urban crisis. Cities have a vital role in implementing anti-contagion policies and adjusting measures to local conditions. The global media environment covers mainly news about national developments and policies, while cities work in the background, facing the local realities and fine-tuning the measures to match with local conditions. COVID-19 is a turning point that leaves its mark not only on intergovernmental relations but also on cities' orientation towards urban planning, design and development. The post-COVID-19 urbanism will revolve around increased interest in urban safety, creative approaches to urban space, diversifying use of online platforms and smart solutions, and citizen engagement and social inclusion as the moral obligation to ensure inhabitants' right to their own city.

REFERENCES

- Abuza, Z. (2020). Explaining Successful (and Unsuccessful) COVID-19 Responses in Southeast Asia. *The Diplomat*. Retrieved July 7, 2020, from <https://thediplomat.com/2020/04/explaining-successful-and-unsuccessful-covid-19-responses-in-southeast-asia/>
- Acuto, M. (2020). COVID-19: Lessons for an Urban(izing) World. *One Earth*, 2(4), 317–319. doi:10.1016/j.oneear.2020.04.004
- Aki-Sawyer, Y., Collier, P., Glaeser, E., Haas, A., Kesson, C., Leape, J., Musisi, J., Mutizwa-Mangiza, N., Sowah, M. A., & Venables, T. (2020). *Empowering our cities to fight the pandemics of the future*. Blog. International Growth Center (IGC). Retrieved June 27, 2020, from <https://www.theigc.org/blog/empowering-our-cities-to-fight-the-pandemics-of-the-future/>
- Alraouf, A., Hanzl, M., & Bogunovich, D. (2020). *Post COVID-19 Urbanism: A challenge to all city and regional planners*. ISOCARP. Retrieved July 5, 2020, from <https://isocarp.org/post-covid-19-urbanism/>
- AlTakarli, N.S. (2020). China's Response to the COVID-19 Outbreak: A Model for Epidemic Preparedness and Management. *Dubai Medical Journal*. doi: 10.1159/000508448
- Anderson, R. M., Heesterbeek, H., Klinkenberg, D., & Hollingsworth, T. D. (2020). How will country-based mitigation measures influence the course of the COVID-19 epidemic? *Lancet*, 395(10228), 931–934. doi:10.1016/S0140-6736(20)30567-5 PMID:32164834
- Andrews, J. (2020). *Seoul's Mayor reveals how the city is tackling COVID-19*. Cities Today. Retrieved July 5, 2020, from <https://cities-today.com/how-seoul-contained-covid-19/>
- Baker, M., & Wilson, N. (2020). *New Zealand hits zero active coronavirus cases. Here are 5 measures to keep it that way*. The Conversation. Retrieved June 30, 2020, from <https://theconversation.com/new-zealand-hits-zero-active-coronavirus-cases-here-are-5-measures-to-keep-it-that-way-139862>
- Boccia, S., Ricciardi, W., & Ioannidis J.P.A. (2020). What Other Countries Can Learn From Italy During the COVID-19 Pandemic. *JAMA Internal Medicine*. doi:10.1001/jamainternmed.2020.1447
- Brahma, D., Chakraborty, S., & Menokey, A. (2020). *The early days of a global pandemic: A timeline of COVID-19 spread and government interventions*. Brookings. Retrieved June 23, 2020, <https://www.brookings.edu/2020/04/02/the-early-days-of-a-global-pandemic-a-timeline-of-covid-19-spread-and-government-interventions/>
- Brown, J., Abdallah, S. S., & Reuben Ng, R. (2011). Decision making styles East and West: Is it time to move beyond cross-cultural research? *International Journal of Sociology and Anthropology*, 3(12), 452–459.
- Cities for Global Health. (2020). *Cities for Global Health: Collective responses to global health emergencies*. Retrieved July 5, 2020, from <https://www.citiesforglobalhealth.org/>
- Coghlan, B., Majumdar, S. S., Pedrana, A., Hellard, M. E., & Crabb, B. S. (2020). A strategic framework to ease community-wide COVID-19 suppression measures. *The Medical Journal of Australia*. Retrieved July 4, 2020, from <https://www.mja.com.au/journal/2020/strategic-framework-ease-community-wide-covid-19-suppression-measures>
- Cowling, B. J., Ali, S. T., Ng, T. W. Y., Tsang, T. K., Li, J. C. M., Fong, M. W., Liao, Q., Kwan, M. Y. W., Lee, S. L., Chiu, S. S., Wu, J. T., Wu, P., & Leung, G. M. (2020). Impact assessment of non-pharmaceutical interventions against coronavirus disease 2019 and influenza in Hong Kong: An observational study. *The Lancet. Public Health*, 5(5), e279–e288. doi:10.1016/S2468-2667(20)30090-6 PMID:32311320
- Doshi, P. (2011). The elusive definition of pandemic influenza. *Bulletin of the World Health Organization*, 89(7), 532–538. doi:10.2471/BLT.11.086173 PMID:21734768
- Duckett, S., & Stobart, A. (2020). *4 ways Australia's coronavirus response was a triumph, and 4 ways it fell short*. The Conversation. Retrieved July 1, 2020, from <https://theconversation.com/4-ways-australias-coronavirus-response-was-a-triumph-and-4-ways-it-fell-short-139845>

Duff-Brown, B. (2020). *How Taiwan Used Big Data, Transparency and a Central Command to Protect Its People from Coronavirus*. Stanford Health Policy. Retrieved June 28, 2020, from <https://healthpolicy.fsi.stanford.edu/news/how-taiwan-used-big-data-transparency-central-command-protect-its-people-coronavirus>

ECDC. (2020). *Q & A on COVID-19*. Retrieved June 23, 2020, from <https://www.ecdc.europa.eu/en/covid-19/questions-answers>

Finnish Government. (2020). *Government decides on plan for hybrid strategy to manage coronavirus crisis and for gradual lifting of restrictions*. Government Communications Department, Press release, 4 May 2020. Retrieved July 2, 2020, from https://valtioneuvosto.fi/-/10616/hallitus-linjasi-suunnitelmasta-koronakriisin-hallinnan-hybridistrategiaksi-ja-rajoitusten-vaiheittaisesta-purkamisesta?languageId=en_US

Frieden, T. R., & Lee, C. T. (2020). Identifying and Interrupting Superspreading Events—Implications for Control of Severe Acute Respiratory Syndrome Coronavirus 2. *Emerging Infectious Diseases*, 26(6), 1059–1066. doi:10.3201/eid2606.200495 PMID:32187007

Furuse, Y., Sando, E., Tsuchiya, N., Miyahara, R., Yasuda, I., Ko, Y.K., Saito, M., Morimoto, K., Imamura, T., Shobugawa, Y., Nagata, S., Jindai, K., Imamura, T., Sunagawa, T., Suzuki, M., Nishiura, H., & Oshitani, H. (2020). Clusters of coronavirus disease in communities, Japan, January–April 2020. *Emerging Infectious Diseases*, 26(9). 10.3201/eid2609.202272

Gibney, E. (2020). Whose coronavirus strategy worked best? Scientists hunt most effective policies Researchers sift through data to compare nations' vastly different containment measures. *Nature*, 581(7806), 15–16. doi:10.1038/d41586-020-01248-1 PMID:32341558

González, A., & de Arc, P. (2020). *Spain lifts lockdown after 98 days to enter a 'new normality'*. EURACTIV. Retrieved July 2, 2020, from <https://www.euractiv.com/section/coronavirus/news/spain-lifts-lockdown-after-98-days-to-enter-a-new-normality/>

González, M. (2020). *Spain's security council downplayed risk of coronavirus pandemic in early March*. El Pais. Retrieved July 1, 2020, from <https://english.elpais.com/politics/2020-06-19/spains-security-council-downplayed-risk-of-pandemic-in-early-march.html>

Hasell, J. (2020). *Testing early, testing late: four countries' approaches to COVID-19 testing compared*. Our World in Data. Retrieved June 27, 2020, from <https://ourworldindata.org/covid-testing-us-uk-korea-italy>

HealthManagement.org. (2020). *Where Are the Most Effective Anti-COVID-19 Strategies?* Retrieved June 28, 2020, from <https://healthmanagement.org/c/hospital/news/where-are-the-most-effective-anti-covid-19-strategies>

Hsiang, S., Allen, D., Annan-Phan, S., Bell, K., Bolliger, I., Chong, T., Druckenmiller, H., Huang, L. Y., Hultgren, A., Krasovich, E., Lau, P., Lee, J., Rolf, E., Tseng, J., & Wu, T. (2020). The effect of large-scale anti-contagion policies on the COVID-19 pandemic. *Nature*. doi: 10.1038/s41586-020-2404-8

Hsieh, L., & Child, J. (2020). *What coronavirus success of Taiwan and Iceland has in common*. The Conversation. Retrieved July 4, 2020, from <https://theconversation.com/what-coronavirus-success-of-taiwan-and-iceland-has-in-common-140455>

Janssen, M., & van der Voort, H. (2020). Agile and adaptive governance in crisis response: Lessons from the COVID-19 pandemic. *International Journal of Information Management*. 10.1016/j.ijinfomgt.2020.102180

Jelavic, M., & Ogilvie, K. (2010). Knowledge Management Views in Eastern and Western Cultures: An Integrative Analysis. *Journal of Knowledge Globalization*, 3(2), 51–69.

Johnson, B. (2020). Nearly 40% of Icelanders are using a covid app—and it hasn't helped much. *MIT Technology Review*. Retrieved July 4, 2020, from <https://www.technologyreview.com/2020/05/11/1001541/iceland-rakning-c19-covid-contact-tracing/>

Jones, A. (2020). *Coronavirus: How 'overreaction' made Vietnam a virus success*. BBC News. Retrieved June 30, 2020, from <https://www.bbc.com/news/world-asia-52628283>

Kauzya, J.-M., & Niland, E. (2020). *The role of public service and public servants during the COVID-19 pandemic*. UN/DESA Policy Brief #79. United Nations Department of Economic and Social Affairs Economic Analysis. Retrieved June 25, 2020, from https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/PB_79.pdf

- Kim, P. S. (2020). South Korea's fast response to coronavirus disease: Implications on public policy and public management theory. *Public Management Review*, 1–12. Advance online publication. doi:10.1080/14719037.2020.1766266
- Klaus, I. (2020). *Pandemics Are Also an Urban Planning Problem*. CityLab. Retrieved July 5, 2020, from <https://www.bloomberg.com/news/articles/2020-03-06/how-the-coronavirus-could-change-city-planning>
- Kwok, K.O., Chan, H.H.H., Huang, Y., Hui, D.S.C., Tambyah, P.A., Wei, W.I., Chau, P.Y.K., Wong, S.Y.S., & Tang, J.W.T. (2020). Inferring super-spreading from transmission clusters of COVID-19 in Hong Kong, Japan and Singapore. *Journal of Hospital Infection*. DOI: 10.1016/j.jhin.2020.05.027
- Laker, L. (2020). Milan announces ambitious scheme to reduce car use after lockdown. *The Guardian*. Retrieved July 5, 2020, from <https://www.theguardian.com/world/2020/apr/21/milan-seeks-to-prevent-post-crisis-return-of-traffic-pollution>
- Marin, C. (2020). *Europe Versus Coronavirus - Putting the Danish Model to the Test*. Institut Montaigne. Retrieved July 2, 2020, from <https://www.institutmontaigne.org/en/blog/europe-versus-coronavirus-putting-danish-model-test>
- Matthews, A. (2020). *Coronavirus: 5 things New Zealand got right*. DW, Science. Retrieved July 1, 2020, from <https://www.dw.com/en/jacinda-ardern-leadership-in-coronavirus-response/a-53733397>
- Moon, M. J. (2020). Fighting COVID -19 with Agility, Transparency, and Participation: Wicked Policy Problems and New Governance Challenges. *Public Administration Review*, 80(4), 651–656. doi:10.1111/puar.13214
- Morens, D. M., Folkers, G. K., & Fauci, A. S. (2009). What Is a Pandemic? *The Journal of Infectious Diseases*, 200(7), 1018–1021. doi:10.1086/644537 PMID:19712039
- Normile, D. (2020a). 'Suppress and lift': Hong Kong and Singapore say they have a coronavirus strategy that works. *Science*, 13(April). Retrieved June 26, 2020, from <https://www.sciencemag.org/news/2020/04/suppress-and-lift-hong-kong-and-singapore-say-they-have-coronavirus-strategy-works>. doi:10.1126/science.abc1963
- Normile, D. (2020b). Japan ends its COVID-19 state of emergency. *Science*, 26(May). Retrieved June 28, 2020, from <https://www.sciencemag.org/news/2020/05/japan-ends-its-covid-19-state-emergency>
- OECD. (2020a). *Public Administration: Responding to the COVID-19 Pandemic*. Support for Improvement in Governance and Management (SIGMA), a joint initiative of the OECD and the European Union. Retrieved June 25, 2020, from <http://www.sigmaweb.org/publications/SIGMA-mapping-public-administration-response-EU-members-coronavirus-COVID19.pdf>
- OECD. (2020b). *Flattening the COVID-19 peak: Containment and mitigation policies*. Retrieved June 25, 2020, from <http://www.oecd.org/coronavirus/policy-responses/flattening-the-covid-19-peak-containment-and-mitigation-policies-e96a4226/>
- OECD. (2020c). *The territorial impact of COVID-19: Managing the crisis across levels of government*. OECD Policy Responses to Coronavirus (COVID-19), Updated 16 June. Retrieved July 3, 2020, from <http://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-across-levels-of-government-d3e314e1/>
- Our World in Data. (2020). *Emerging COVID-19 success story: South Korea learned the lessons of MERS. A guest post from researchers at the Ariadne Labs*. Our World in Data. Retrieved July 5, 2020, from <https://ourworldindata.org/covid-exemplar-south-korea>
- Parodi, S. M., & Liu, V. X. (2020). From Containment to Mitigation of COVID-19 in the US. *Journal of the American Medical Association*, 323(15), 1441–1442. doi:10.1001/jama.2020.3882 PMID:32167525
- Reidy, G. (2020). An architect of Japan's virus strategy sees flaws in West's approach at fighting the pandemic. *The Japan Times*. Retrieved June 28, 2020, from <https://www.japantimes.co.jp/news/2020/06/10/national/japan-coronavirus-strategy/>
- Reynolds, I. (2020). Masks helped keep Japan's COVID-19 death toll low, says expert panel. *The Japan Times*. Retrieved June 28, 2020, from <https://www.japantimes.co.jp/news/2020/05/28/national/science-health/masks-helped-fight-coronavirus/>

- Reynolds, S., & Baeck, P. (2020). *Smart cities during COVID-19: How cities are turning to collective intelligence to enable smarter approaches to COVID-19*. Digital Leaders. Retrieved July 6, 2020, from <https://digileaders.com/smart-cities-during-covid-19-how-cities-are-turning-to-collective-intelligence-to-enable-smarter-approaches-to-covid-19/>
- Ritchie, H., Ortiz-Ospina, E., Beltekian, D., Mathieu, E., Hasell, J., Macdonald, B., Giattino, C., & Roser, M. (2020). *Policy Responses to the Coronavirus Pandemic*. Our World in Data, Statistics and Research. Retrieved July 7, 2020, from <https://ourworldindata.org/policy-responses-covid>
- Robinet-Borgomano, A. (2020). *Europe Versus Coronavirus – Austria and the Road to a “New Normal”*. Institut Montaigne. Retrieved July 7, 2020, from <https://www.institutmontaigne.org/en/blog/europe-versus-coronavirus-austria-and-road-new-normal>
- Ruiu, G., & Ruiu, M. L. (2020). Violation of lockdown norms and peaks in daily number of positive cases to COVID-19 in Italy. *Emerald Open Research*, 2020(2), 25. doi:10.35241/emeraldopenres.13699.1
- Ryall, J. (2020). Japan losing patience with government over COVID-19 response. DW. *Asia*, 15(April). Retrieved July 6, 2020, from <https://www.dw.com/en/japan-losing-patience-with-government-over-covid-19-response/a-53133243>
- Su, Y. F., Wu, C. H., & Lee, T. F. (2017). Public Health Emergency Response in Taiwan. *Health Security*, 15(2), 137–143. doi:10.1089/hs.2016.0108 PMID:28418737
- Tavares, S., & Stevens, N. (2020). *Cities will endure, but urban design must adapt to coronavirus risks and fears*. The Conversation. Retrieved July 6, 2020, from <https://theconversation.com/cities-will-endure-but-urban-design-must-adapt-to-coronavirus-risks-and-fears-135949>
- Tian, H., Liu, Y., Li, Y., Wu, C.-H., Chen, B., Kraemer, M. U. G., Li, B., Cai, J., Xu, B., Yang, Q., Wang, B., Yang, P., Cui, Y., Song, Y., Zheng, P., Wang, Q., Bjornstad, O. N., Yang, R., Grenfell, B. T., & Dye, C. et al. (2020). An investigation of transmission control measures during the first 50 days of the COVID-19 epidemic in China. *Science*, 368(6491), 638–642. doi:10.1126/science.abb6105 PMID:32234804
- Vandecasteele, I., Baranzelli, C., Siragusa, A., & Aurambout, J. (Eds.). (2019). *The Future of Cities: Opportunities, challenges and the way forward. Science for Policy report by the Joint Research Centre (JRC). EUR 29752 EN*. Luxembourg: Publications Office of the European Union. Retrieved June 27, 2020, from <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/future-cities>
- Vissner, J. (2020). *Four European countries who deeply regret their corona policies*. Innovation Origins. Retrieved July 1, 2020, from <https://innovationorigins.com/four-european-countries-who-deeply-regret-their-corona-policies/>
- Wahba, S., & Vapaavuori, J. (2020). *A functional city's response to the COVID-19 pandemic*. World Bank blogs, Sustainable Cities. Retrieved July 6, 2020, from <https://blogs.worldbank.org/sustainablecities/functional-citys-response-covid-19-pandemic>
- Walensky, R. P., & del Rio, C. (2020). From Mitigation to Containment of the COVID-19 Pandemic: Putting the SARS-CoV-2 Genie Back in the Bottle. *Journal of the American Medical Association*, 323(19), 1889–1890. doi:10.1001/jama.2020.6572 PMID:32301959
- Wang, C. J., Ng, C. Y., & Brook, R. H. (2020). Response to COVID-19 in Taiwan: Big Data Analytics, New Technology, and Proactive Testing. *Journal of the American Medical Association*, 323(14), 1341–1342. doi:10.1001/jama.2020.3151 PMID:32125371
- Wang, T.-Y., & Liu, H. (2018). An emerging Asian model of governance and transnational knowledge transfer: An introduction. *Journal of Asian Public Policy*, 11(2), 121–135. doi:10.1080/17516234.2018.1477030
- Weible, C. M., Nohrstedt, D., Cairney, P., Carter, D. P., Crow, D. A., Durnová, A. P., Heikkilä, T., Ingold, K., McConnell, A., & Stone, D. (2020). COVID-19 and the policy sciences: Initial reactions and perspectives. *Policy Sciences*, 53(2), 225–241. doi:10.1007/s11077-020-09381-4 PMID:32313308
- WHO. (2005). *WHO global influenza preparedness plan: the role of WHO and recommendations for national measures before and during pandemics*. World Health Organization. Retrieved June 26, 2020, from <https://apps.who.int/iris/handle/10665/68998>

WHO. (2020a). *COVID-19 strategy up-date*. Geneva, Switzerland: World Health Organization.

WHO. (2020b). *Strengthening Preparedness for COVID-19 in Cities and Urban Settings Interim Guidance for Local Authorities*. Geneva: World Health Organization.

Wieler, L., Rexroth, U., & Gottschalk, R. (2020). *Emerging COVID-19 success story: Germany's strong enabling environment*. Our World in Data. Retrieved July 7, 2020, from <https://ourworldindata.org/covid-exemplar-germany>

Yamamoto, T. (2013). Pandemic Control Measures. Special Feature: Comprehensive CME Program on Disaster Medicine Part 1 Conferences and Lectures. *Japan Medical Association Journal*, 56(1), 51–54. Retrieved June 23, 2020, from https://www.med.or.jp/english/journal/pdf/2013_01/051_054.pdf

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