Prof. Dr. Doris Fischer

COVID-19 in China – From Chernobyl Moment to Party State Victory?

China was the first country exposed to the peculiarities of COVID-19. In early 2020, the city of Wuhan and the Hubei Province suffered tremendously from the system's initial unpreparedness and involuntarily emerged as a testing ground for measures to contain the pandemic. Since then, the arsenal of measures used to win the "people's war" whenever single cases that occur somewhere in China has been refined and applied successfully. This article gives an overview of these at times draconian measures and discusses their social, economic and political impact.

COVID-19 in China – From Chernobyl Moment to Party State Victory?

|| Prof. Dr. Doris Fischer

At the end of 2019, news emerged from China about an unknown virus spreading in Wuhan. In less than two months, it became evident that the virus was expanding globally. Ever since, the world has been struggling to limit the pandemic and its impact on societies, economies, and politics around the globe. Meanwhile, China has been able to contain the pandemic by turning the country into an island-like fortress: difficult to visit but relatively safe within its borders. Much of the media coverage regarding China's role in the pandemic circulates around the origin of the virus, the country's official communication strategy in the early weeks of the crisis, and the government's more recent advances in mask and vaccine diplomacy. Less attention has been given to the Chinese government's instruments to fight the virus and limit its social, economic, and political ramifications.

This article does not try to solve the question of the virus's medical and regional origin, nor will it discuss issues of appropriate treatment. Instead it is interested in how the Chinese government and society addressed the challenge and which steps were taken to cushion the pandemic's impact. This task is far from easy, as the Chinese government on the one hand communicates intensively about infection cases and policies, but on the other hand restricts the extent to which independent media can report on the issue. These constraints make it difficult to assess or discuss the efficacy and efficiency of different measures taken, not least because research mobility is also restricted. Furthermore, the

virus emerged in China at a time of deteriorating US–China relations in the context of their bilateral trade conflict. Mutual perception of the efforts taken to combat the crisis is framed against the background of this ongoing conflict, thereby at times casting doubt on the reliability of judgements, data, and reports.

Coronavirus pandemic unfolding in China

The exact start of the pandemic in China and the origin of the virus are still heavily contested. However, it is safe to say that news about a new infectious disease spreading in Wuhan and the surrounding Hubei Province circulated in China in December 2019. International news coverage started at the end of that month. The Chinese government had officially acknowledged the circulation of a novel coronavirus by January 8, although some reports show that the central government had been informed earlier (Financial Times, February 16, 2020). The WHO was formally notified on January 11 (Osterholm & Olshaker, 2020). Initially, human-to-human transmission was not officially confirmed, regardless of the warnings of – among others – the by now famous doctor Li Wenliang who had alerted colleagues but was silenced by local authorities soon afterwards. Also, the information that the virus can be transmitted by infected people who do not show symptoms was not officially confirmed early on. The delay of this information contributed to tragic developments in Wuhan, as the local government proceeded with a banquet for several thousand

people related to the upcoming Spring Festival. This festivity seemingly became a super-spreader event that triggered the fast expansion of the coronavirus in Wuhan (AP, April 15, 2020). After human-to-human transmission was finally confirmed on January 20, national and international travel was suspended from and to Wuhan on January 23. A quarantine was imposed first on the city's population and expanded within two days to Hubei Province. At the time (Jan. 23), Wuhan and Hubei reported a death toll of 18 people (Reuters, 2020). Over the following weeks and months, the city of Wuhan and Hubei Province saw a dramatic rise in infections and deaths, which eventually led to an extension of the strict local lockdown regulations until April 8. By the end of the lockdown, 81,865 people had been diagnosed with a coronavirus infection, of which 64,187 cases had occurred in Hubei Province. The total death toll had increased to 3,335 nationally, including 3,215 deaths in Hubei, of which 2,574 were counted in Wuhan (NHC, April 9, 2020).

The travel restrictions in January 2020 came too late to prevent the virus from spreading nationally and internationally, as many people had already left Wuhan to visit their families and hometowns or to spend holidays abroad over the Spring Festival (Liu & Wang, 2020). Because the virus was allowed to escape Wuhan and Hubei before their lockdown, other provinces also soon saw their numbers of infections rising. Therefore, the city of Shanghai and other provinces decided to extend their Spring Festival holidays to prevent people from returning to work. Over the following weeks, more and more places in China practically cordoned people off from their environment and forced them to stay at home. In total, for a period of several weeks, several hundred million people were largely staying at home. In most regions except Wuhan and Hubei, restrictions were eased in March, while testing, tracing, and isolation measures (see below) remained in place. Since spring 2020, temporary lockdowns have been imposed locally whenever a city district, a city,

or township recorded new infections. While in most places, lockdowns were implemented to prevent people from leaving the area, Beijing, the capital, has repeatedly restricted entry of people from other places to prevent infiltration of infected persons.

The official total number of infections in China stands around 100,000 cases by the time of writing, with an accumulated death toll of 4,800 persons, according to the Johns Hopkins Coronavirus Resource Center statistics. Most of the infections and deaths date back to the first four months of 2020. As a result, China is today among the countries with low infection rates and a low aggregate number of coronavirus deaths. It has been argued that the data reported by China is not fully comparable with other countries, as there have been questions regarding China's counting and reporting of infected persons without symptoms. Still, a massive second or third wave of infections has not occurred in China so far. Such a wave would have been impossible to hide and would have prevented the government from loosening most restrictions, as has been the case since the summer of 2020.

Measures to fight and contain the virus

If the Chinese government initially had been reluctant to communicate the danger of the virus, it changed its approach dramatically in late January 2020. In February, Party Secretary Xi Jinping declared that the country was at war with the virus and would do everything to eradicate it (Xinhua News Agency, October 02, 2020). Ever since then, the fight against the coronavirus and its resurgence has been the government's priority. The underlying target of this "people's war" is to suppress the virus by all means rather than finding a way to live with it. Formally, the draconian measures taken to fight the pandemic were based on the existing "Law on the prevention and control of infectious diseases and regulations applying to sudden public health emergencies". While these rules served as the

initial playbook for the fight, implementation has become more refined over time.

The measures taken by the government to combat the virus can be divided into five categories: first, hygiene rules; second, measures of testing, tracing, and isolation and related precautionary measures to prevent the transmission of infections; third, measures added during local lockdowns; fourth, measures to defend China against the import of infections; and – last but not least – vaccination. The central government plays an important role in defining the strategy and coordinating efforts, which for example, included the mobilization of military support for Wuhan under the lockdown. However, regardless of the central government's war rhetoric attached to the fight against the virus, the actual measures taken are often defined locally. Still, the central government casts a permanent shadow that is strongly felt by local governments, especially since some Wuhan decision-makers were ousted due to their alleged failure to handle the – by then – still unknown infectious disease properly in late 2019 and early 2020 (Myers, 2020).

Hygiene rules

General hygiene rules in China do not differ from those recommended in other countries. At the individual level, hand disinfecting and distance-keeping form part of the rules, as does the wearing of masks in public. Regarding the latter, China profited from a high level of acceptance. While people in Western countries initially rejected mask-wearing and only reluctantly adapted to it after the pandemic expanded across the US and Europe, Chinese people – as many of their Asian counterparts – turned to mask-wearing without much protest. This willingness to use masks has alternatively been attributed to the Chinese experience with SARS in 2003 and to social habits that prescribe mask-wearing as a gesture of respect towards other people (Zheng, 2020).

Test, trace, and isolate

COVID-19 differs from other coronaviruses such as SARS because contagion is possible via infected people who have no or only mild symptoms. This fact was not known at the outset but gradually came to be acknowledged as the pandemic unfolded after January 2020. Once this specific feature of COVID-19 became obvious, the Chinese government started to build up large-scale testing capacity (AlTakarli, 2020). Soon, mass testing became an important instrument whenever a cluster of local infections was detected. One of the first such mass testing initiatives was organized in Wuhan. It aimed to identify and isolate all those who had an active infection. Similar mass testing campaigns have since been undertaken after local outbreaks, for example, in Kashgar, Tianjin, Beijing, Shenzhen, Guangzhou, and Dongguan.

The detection of infections and clusters often emerges from routine testing at workplaces, airports and train stations, and community entrance checkpoints. Anyone with a positive test is immediately isolated and their itinerary and contacts traced (WHO, 2020). Even single cases are reported in detail in the media. While the infected person's name is not fully published, detailed information is usually provided regarding the person's whereabouts in the days and hours before the test. The information allows other people to assess whether they might have been in contact with the respective person and may prepare them for changes in their status and code (see below). Such detailed information can only be provided as long as the number of infections is low and tracing is still possible. This has been the case in China since the lockdown ended in Wuhan and Hubei. The war-like defence against the virus and massive mobilization of human resources once a cluster of cases erupts has prevented infections from expanding to a scale where tracing would no longer be possible.

Testing activities are not limited to coronavirus tests in the narrow sense. A specific

instrument of the Chinese approach against the pandemic has been the use of public fever screening. At train stations, hospitals, and roadside and community checkpoints, "thermometer guns" would be pointed at a person's forehead for an infrared-based temperature check (Yaffe-Bellany, 2020). People with a temperature above normal levels would be isolated (see below). Whether temperature screening has been an effective instrument in the fight against the COVID-19 pandemic is unclear. Even though China's overall strategy to fight the pandemic has been successful, the thermometer guns have been criticized for their low level of accuracy. More importantly, contagious persons without symptoms can hardly be identified with this method. The ubiquitous temperature screening most likely had the primary purpose of demonstrating government action and acting as a constant reminder for the Chinese people of the virus's danger.

As in other countries, tracing is partly based on interviews with infected persons to identify past contacts. On top of this, however, tracing efforts are supported by digital technology and obligatory smartphone applications. These apps generate green, yellow, or red QR codes depending on the travel itinerary and health data of the smartphone user. A green code is generated if the user has not recently been in any place associated with an outbreak or in close contact with an infected person. A yellow code indicates recent contact with an infected person, and the red code indicates that a smartphone holder is an infected person. How these codes are generated is not fully transparent, but the traffic light system is used to define access to public transport and other facilities for which a green code is necessary (Ricci, 2021). Data collected via the QR code checks at the community level is aggregated into a big data analytics system which the government and supporting ICT firms use to estimate the risk of infection within local communities, and to identify close contacts of diagnosed persons and initiate quarantine accordingly (Boeing

& Wang, 2021). Inconveniently, in addition to a national app, local governments often demand QR codes based on local tracing applications, thereby forcing travellers to install a variety of apps on their devices.

Isolation rules usually distinguish between coronavirus patients, suspicious cases, undefined cases, and close contact persons. Based on their respective status, people are either hospitalized or quarantined in specific observatory isolation wards erected in the vicinity of hospitals (Feng, 2020). While quarantined, each person's health condition is closely monitored by local health officers. If people develop symptoms while being observed during isolation, they are immediately transferred to the hospital. Isolation ends on the condition that repeated tests have been negative. The duration of these measures is defined by local health organizations but requires permission from the next-tier, higher government levels for implementation.

Isolation at home is the exception and only permitted for vulnerable people who need special support. The limited use of isolation at home is based on Wuhan's experiences in early 2020. At the time, it became obvious that many infections were transmitted within families because infected persons had been sent home for isolation when hospitals were overwhelmed. Isolation in dedicated observation centres also reflects a specific trait of the Chinese health system, which lacks a system of individual general practitioners. It mostly relies on hospitals, to which people turn with all their health problems. As a result, in the early days of the pandemic in Wuhan, even people with minor and unrelated symptoms would crowd the hospitals' ambulances. These crowds most likely contributed to the fast increase in infections.

Lockdown
There is no clear international definition or unified understanding of the word lockdown. In China, Hubei Province and its capital, the city of Wuhan, were arguably the only

locations that experienced an extended and severe lockdown. For 76 days, the city government "banned all unauthorised public and private transportation and urged residents to avoid unnecessary transfers in and out of the city" (Boeing & Wang, 2021, p. 343). In essence, most residents had to stay within their apartments and gated communities. Firms and shops were closed, as were restaurants, kindergartens, schools, and universities. For those people who had to leave their communities, the measures of testing and tracing described above were strictly applied at community bloc entries.

Nationally, the lockdown was also implemented via a reduction in public and private traffic, but the restrictions on individual mobility were shorter and, on average, less severe. The national lockdown was mainly implemented by way of an extension of Spring Festival-related production and school holidays. As a result, hundreds of millions of people, including migrant workers, expanded their stays at home, while many white-collar professionals had to switch to the home office. Production activities started to resume in March, though many companies faced problems initially: supply chains had been interrupted, partly because of the extended halt in production in the industrious Hubei Province. In addition, migrant workers were reluctant to return to work as long as the pandemic situation remained volatile. Schools remained closed until summer and switched to online teaching, as did universities. Some of the latter imposed restrictions on their students, requiring them to stay within the confines of their campuses even after the lockdown measures were eased for their teachers and the rest of the cities.

China's approach to lockdown management is based on existing structures of community governance. While traditional socialist practices of spatial social management and control – such as the units (danwei) and the household registration system (hukou) – had lost relevance over the decades of economic reform, the society today is spatially divided into grid zones which are closely monitored by grid managers supported by digital technology; the idea is that the close monitoring of the zones helps to detect problems, and safety and hygiene issues (Tang, 2020) early on. This grid management has been instrumental for the supervision of lockdown measures and is further supported by the tradition of encircling neighbourhoods with walls or fences. Through the combination of physical boundaries, digital surveillance and community managers, China has an effective system in place to restrict mobility of residents, erect health checkpoints and distribute goods to people confined in their flats (Wei et al., 2021).

Control of infection import

Another crucial aspect of China's pandemic response is the strict limitation on international mobility. Initially, the Chinese government did not close international airports and borders to prevent the spread of the virus beyond China. However, since travel restrictions were imposed in February 2020, these have only cautiously been adapted. Measures to prevent the import of coronavirus to China are manifold. With regard to the mobility of people, examples include limits to the number of permitted international flights at Chinese international airports, restrictive visa policies, extensive quarantine rules, and the construction of a wall.

These measures target and hurt different groups of travellers in discrete ways. The radical reduction of international flights imposed in 2020 was mainly directed at Chinese nationals because the limitations made flight tickets prohibitively expensive, thereby making it unattractive, if not unaffordable, for the hundreds of thousands of Chinese students abroad to return home for holidays. Visa policies are directed against the mobility of foreigners. In spring 2020, the Chinese government declared all existing visas of people outside China as invalid, a rule that left numerous foreigners employed

in China stranded abroad after their Spring Festival holiday. Ever since then, foreign residents working in China have refrained from leaving the country as they might not be able to return. Visa restrictions have subsequently been selectively adjusted for foreign managers and teachers at Chinese institutions. Still, tourists, researchers, and journalists as well as students, in general, are not granted a visa. At the time of writing, it is not clear when the Chinese government will lift restrictions on international mobility. Arguably the Chinese declaration of war on the virus implies that any larger outbreak equals a defeat. As a result, reports on locally detected cases of infection highlight incidences of imported infection. The resulting suspicion against travellers from abroad will make it very difficult for the government to relax the restrictions.

Quarantine rules seem not to differ much for Chinese nationals or foreigners entering China. They include strict testing requirements, both before boarding a flight to China and upon arrival in China. Regardless of test results, everyone arriving in China is subject to a two- or three-week quarantine stay in a designated location at the place of arrival. Travellers who afterwards continue their itinerary to another province usually face another two weeks of quarantine at the destination. Quarantine stays involve regular temperature checks and testing. Positive tests at any stage of the process can lead to extended hospitalization. Some foreign governments have openly criticized the treatment of travellers under China's quarantine rules and discourage people from travelling to China (The Economist, 2021).

A more recent attempt to control the import of the pandemic to China is the construction of a barbed-wire fence along the China–Myanmar border (Global Times, 2021). China has borders with numerous neighbouring countries, but in many cases, it is not easy to trespass beyond the official crossings and, arguably, there is also little incentive to do

so. The Myanmar case is different because Chinese nationals have established vibrant settlements beyond the border over the past years. The formal restrictions on immigration seem to have encouraged informal crossings, resulting in the import of infections.

Vaccination

Vaccine development has been an integral part of the Chinese pandemic strategy. The Chinese government and companies clearly hoped to excel in the global competition around vaccine development and to demonstrate the country's capabilities in the health industry. The strategy has been successful insofar as China was among the first countries to develop reliable vaccines. Although the Chinese vaccines provide a lower level of protection against infection, they are said to offer reliable protection against severe occurrences of the disease. Again, disputes have emerged regarding the transparency of the vaccine-related data and studies, and – as a result – also regarding their effectiveness (Mallapaty, 2021). Nevertheless, the Chinese government endorsed the homegrown vaccines for use within China as well as for export, whereas it has been reluctant to admit foreign vaccines for use in China. Even though China preceded other countries with both the production and export of vaccines, the vaccination rate in the country was lagging behind major European countries and the US at the time of writing.

Conclusion and outlook

China was the first country exposed to the peculiarities of COVID-19. Wuhan and Hubei initially suffered from the system's unpreparedness and then involuntarily emerged as a testing ground for measures to contain the pandemic. China developed its strategies based on experiences from the SARS pandemic in 2003 and painful lessons learned in the first months of 2020. Thereby, China emerged as one of the few countries to have evaded further larger waves of the pandemic so far; the pandemic's death toll is very low

in international comparison, especially since the end of the first wave. While the origin of COVID-19 remains a contentious topic in global politics, and China is criticized for its related information policy, there is plenty of evidence that few countries were well prepared to face the virus initially. In comparison, China's war against the virus and the draconian measures taken whenever COVID-10 recrudesces somewhere in the country have been rather successful in preventing another larger outbreak.

Nevertheless, Western democracies have been reluctant to copy the Chinese approach or to acknowledge lessons learned from the early experiences in Wuhan. The causes for this reluctance are manifold and include, for example, ignorance regarding the health expertise existing within the country, naïve belief that the virus would only hit economically less developed or socialist countries, blindness induced by geopolitical factors, and rational acknowledgement of the Chinese health system's peculiarities. Regarding the latter, lockdown surveillance of the kind facilitated by grid management would hardly work in liberal democracies and few countries have the resources and political environment that would allow border control and quarantine rules as restrictive as in China. In addition, lack of transparency concerning the implementation of some of measures, pervasive censorship of Chinese media, and the fate of some city journalists and whistleblowers who documented the pandemic in Wuhan cast doubt on the validity of China's approach.

In economic terms, China suffered considerably in the first quarter of 2020, when production and service industries bore the brunt of the lockdown. The annual GDP growth rate plummeted to 2.3% in 2020, compared to 5.8% in 2019 (International Monetary Fund [IMF] Data). However, in international comparison, this dip was moderate as many other economies featured negative real growth. China's economic rebound largely relied on increased government investment in the sec-

ond quarter of 2020; private consumption only recovered later in the year. In addition, an increase in exports of products related to the pandemic, such as personal protective equipment, masks, and home office-related technology products supported the recovery (IMF, 2021). Still, the economic impact of the pandemic is obvious in China, too. First, small and medium enterprises in the service sector, especially all those related to tourism and travelling, have been struggling because they feel the impact of mobility restrictions most directly (Abiad et al., 2020). In addition, the lockdowns, both in Wuhan and Hubei at the onset of the pandemic as well as those occasionally imposed later in 2020 and in 2021, put global supply chains under stress. China is a global industrial production hub and a crucial link in many global supply chains. Therefore, interruptions to supply chains caused by local lockdowns, such as the temporary closure of a container harbour in mid-2021, inevitably harm customers as well as producers abroad and in China (Xie et al., 2021). In contrast, internet platforms and delivery services in China were among the winners of the pandemic.

Politically, the Chinese government so far seems to have gained from the pandemic, at least at home. While it had to face criticism in Chinese social media in the first months of 2020, this criticism has mostly disappeared due to related censorship regulations. However, the reduction of criticism is not fully explained by increased censorship. Anecdotal evidence, as well as media reports, suggests that the success in suppressing the virus following the first wave has gained the government much support, not least because other countries have in the meantime been struggling with a second, third, or even fourth wave and have been much less successful in limiting the number of corona-related deaths. Internationally, the pandemic has so far not enhanced China's global image. The government is going to great lengths to ensure that China is neither blamed for the COVID-19 outbreak nor associated with being the country

of the virus's origin. It also has placed considerable efforts into so-called mask and vaccine diplomacy. While some countries welcome these supplies, the offerings are rarely donations. Most importantly, the mentioned factors of the effectiveness of Chinese vaccines and a lack of transparency regarding related data have made it difficult for the government to translate these supplies into reputational gain.

The long-term impact of the pandemic is difficult to forecast. The Chinese government will most likely continue to pursue a zero-COVID strategy, if only because it is difficult to back-peddle after declaring war on the virus in 2020. Whether this will continue to be a successful strategy is contingent on many factors: whether vaccination success in other countries allows for fewer travel restrictions there, whether China can contain the more contagious delta variant via its now standard practices of massive testing and draconian local lockdowns, and also whether new, more aggressive variants emerge. The impact of the ongoing border closures and travel restrictions is less obvious, but may be more severe in the long run. Such measures prevent direct contact between the Chinese and people outside China, which is already contributing to a resurgence of prejudices on all sides and a lack of mutual understanding. Unfortunately, this does not bode well for future international relations with China.

|| Prof. Dr. Doris Fischer

Economist and Sinologist with 30 years of experience in academic research, teaching and consultancy on China's economy. Doris Fischer has done extensive research on competition, regulation and industrial policies in various sectors focusing amongst others on the rationale of Chinese economic policies and resulting incentive structures of economic actors. Her current research follows three larger topical areas: First, furthering the understanding of China's innovation system(s) and industrial policies; second, the role of entrepreneurship and local actors in

China's transition to a new growth model; third, challenges arising from China's economic growth and the so-called China model for other countries and global development.

REFERENCES

Abiad, A., Platitas, R., Pagaduan, J., Jabagat, C. R., & Laviña, E. (2020). *ADB Briefs.* Manila, Philippines. https://doi.org/10.22617/BRF200367-2

AlTakarli, N. S. (2020). China's Response to the COVID-19 Outbreak: A Model for Epidemic Preparedness and Management. *Dubai Medical Journal, 3*(2), 44–49. https://doi.org/10.1159/000508448

Boeing, P., & Wang, Y. [Yihan] (2021). Decoding China's COVID-19 "Virus Exceptionalism": Community-Based Digital Contact Tracing in Wuhan. *R&D Management, 51*(4), 339–351. https://doi.org/10.1111/radm.12464

The Economist. (2021, July 17). *China Is Keeping Its Borders Closed, and Turning Inward.* https://www.economist.com/china/2021/07/17/china-is-keeping-its-borders-closed-and-turning-inward

Feng, E. (2020, February 24). *China Has Built Over 20 Mass Quarantine Centers for Coronavirus Patients in Wuhan.* NPR. https://www.npr.org/2020/02/24/808995258/china-has-built-over-20-mass-quarantine-centers-for-coronavirus-patients-in-wuha?t=1628007739565

Global Times. (2021, July 9). *Iron Wire on China-Myanmar Border Built During Virus Spike in Sep 2020, Prevents Illegal Border Crossing Among COVID-19 Resurgence.* https://www.globaltimes.cn/page/202107/1228257.shtml

International Monetary Fund (Ed.). (2021). *People's Republic of China: Staff Report for the 2020 Article IV Consultation: Informational Annex.* IMF Staff Country Reports. https://www.elibrary.imf.org/view/journals/002/2021/006/article-A002-en.xml

Liu, H., & Wang, Y. [Yizi]. (2020, February 3). Graphics: What Does the Spring Festival Travel Rush Mean for Coronavirus-Hit Wuhan? CGTN. https://news.cgtn.com/news/2020-02-03/Graphics-What-does-Chunyun-mean-for-coronavirus-hit-Wuhan--NMVQCjIxd6/index.html

Mallapaty, S. (2021, May 4). *China's COVID Vaccines Are Going Global – But Questions Remain.* Nature. https://www.nature.com/articles/d41586-021-01146-0

Myers, S. L. (2020, February 13). *China Ousts 2 Party Officials Amid Outrage About Coronavirus Response.* The New York Times. https://www.nytimes.com/2020/02/13/world/asia/china-coronavirus-xi-jinping.html

Osterholm, M. T., & Olshaker, M. (2020). Chronicle of a Pandemic Foretold: Learning From the COVID-19 Failure – Before the Next Outbreak Arrives. *Foreign Affairs* (July/August 2020). https://www.foreignaffairs.com/articles/united-states/2020-05-21/coronavirus-chronicle-pandemic-foretold

Reuters. (2020, June 29). *Timeline: How the Global Coronavirus Pandemic Unfolded.* https://www.reuters.com/article/us-health-coronavirus-timeline-idUSKBN23Z0UW

Ricci, S. (2021, March 23). *The New Codes Governing Everyday Life in China.* AFP. https://correspondent.afp.com/new-codes-governing-everyday-life-china

Tang, B. (2020). Grid Governance in China's Urban Middle-Class Neighbourhoods. *The China Quarterly,* 241, 43–61. https://doi.org/10.1017/S0305741019000821

Wei, Y., Ye, Z., Cui, M., & Wei, X. (2021). COVID-19 Prevention and Control in China: Grid Governance. *Journal of Public*

Health (Oxford, England), 43(1), 76–81. https://doi.org/10.1093/pubmed/fdaa175

WHO (Ed.). (2020). *Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19).* https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf

Xie, S. Y., Paris, C., & Yang, S. (2021, June 11). Fresh COVID-19 Outbreaks in Asia Disrupt Global Shipping, Chip Supply Chain. *The Wall Street Journal.* https://www.wsj.com/articles/the-global-logistics-logjam-shifts-to-shenzhen-from-suez-11623403801

Yaffe-Bellany, D. (2020, February 14). *"Thermometer Guns" on Coronavirus Front Lines Are "Notoriously Not Accurate".* The New York Times. https://www.nytimes.com/2020/02/14/business/coronavirus-temperature-sensor-guns.html

Zheng, S. (2020, March 14). *Face Masks and Coronavirus: How Culture Affects Your Decision to Wear One.* South China Morning Post. https://www.scmp.com/news/china/society/article/3075211/face-masks-and-coronavirus-how-culture-affects-your-decision