

When Grid Meets Web: How COVID extended the Party-state's capacity for social control at the grassroots

Abstract: Although Xi Jinping is widely seen, both inside and outside of China, as a vigorous centralizer of political power, the party-state responded to the sudden emergence of COVID-19 with an arguably less visible but dramatic shift in the opposite direction: a sudden delegation of power and authority to lower-level organizations in order to maintain social governance and control at the grassroots. This unprecedented rapid downshift of authority greatly empowered the urban subdistricts (街道) and neighborhood organizations (社区) that operate just outside the margins of official state power. Such a centripetal shift to the margins was supercharged by a rapid build-up of the high-tech capacities of the urban grassroots that included a proliferation of digital instruments to control and restrain the movement of ordinary residents on a grand scale, resulting, during the period of the pandemic, in the strictest social control since the Maoist era.

On its face, the initial message appeared innocuous enough: in April 2022, customers of four banks in rural Henan were informed that withdrawals were suspended temporarily for routine “system maintenance and upgrade.” However, when the “upgrade” message persisted, savvy depositors linked the issue to an ongoing police investigation of the bank’s owner. The Henan New Fortune financial services group was suspected of “illegally absorbing public deposits” (非法吸收公众存款) across several rural banks. In all, six bank chains, including two in neighbouring Anhui Province, were affected.¹

The news spread like wildfire, triggering an escalating series of protests by anxious depositors. The first took place outside the China Banking and Regulatory Commission in Zhengzhou in late May after bank customers were told that their funds had been frozen by regulators. Although the deputy director assured the protestors that all legitimately deposited funds would be protected,² five weeks later, several thousand more depositors amassed outside the Zhengzhou branch of the People’s Bank of China. Many were beaten by local police and an army of white-shirted thugs, sending dozens to the hospital.³

However, many others who had planned to participate were prevented from doing so when their health codes mysteriously turn red, barring them from using public transportation. Some who managed to arrive by train saw their codes switch when they scanned the Zhengzhou Station South Exit sentinel QR code, preventing them from leaving the station.⁴ In all, 1,317 depositors from both in- and outside of Zhengzhou—some as far away as Shandong and Liaoning--

reported suspicious and irregular “health code switching” beginning in mid-June,⁵ confirming suspicions that China’s COVID-tracking system could in fact be weaponized by local authorities to stifle dissent.

On social media, netizens accused Zhengzhou authorities of using the health code app as a “good citizen certificate” (良民證); others opined that “unrestricted public power is China’s biggest epidemic” (不受限制的公權力，才是中國最大的疫情). One Zhengzhou resident whose health code was switched illegitimately for three days filed an administrative petition against the Henan Health Committee.⁶ Eventually, even nationalist firebrand Hu Xijin weighed in, asserting that the misuse of health codes by local governments could threaten the legitimacy of the government’s anti-COVID efforts.⁷ Ten days later, the Zhengzhou Discipline Inspection Commission apparently agreed, and removed the deputy secretary of the city’s Political-Legal Committee from office. Four other officials were likewise demoted or otherwise disciplined for tampering with the health codes of residents without any medical cause.⁸

Zhengzhou’s deployment of health code-switching is perhaps one of the best-known recent examples of digitalized “overreach”⁹ by local administrative units unexpectedly empowered by Xi Jinping’s signature “zero COVID” policy. Yet the case arguably also stands as an important marker signalling future trends in the direction of the regime’s efforts at social governance and control. Although Xi is widely viewed both in-and outside of China as a highly efficient centralizer of political power, the unprecedented demands on state capacity wrought by the pandemic in fact entailed an arguably less visible but dramatic shift in the opposite direction: a sudden delegation of power and authority to organizations at the social grassroots.

This remarkable downshift of operational authority displayed two distinct characteristics. First, it pushed beyond the boundaries of official administrative structures, greatly empowering the shadowy and largely extra-legal realm of urban subdistricts (街道) and neighborhood organizations (社区). Both have emerged since the adoption of market reforms, but occupy a place outside of the established Party-state hierarchy, operating more as autonomous self-governing grassroots entities rather than as appendages of local government. China’s “zero-COVID” policy necessitated a rapid administrative activation of these organizations through the so-called “grid management system” (网格化管理系统).¹⁰ Second, this wave of “pandemic state-building”¹¹ was supercharged by enhancing the high-tech capacities of the urban grassroots. To cope with the rapidly spreading coronavirus, urban subdistricts and neighborhood organizations emerged as new hubs of digitalized surveillance, monitoring and control. It was the combination of these two developments—the empowerment

and mobilization of the Party-state’s administrative agents at social grassroots, and the proliferation of digital instruments to control and restrain the movement of ordinary residents on a grand scale—that made possible the Party-state’s capacity to impose and maintain the strictest social control since the Maoist era during the pandemic.

Fortifying the Grid

Contemporary “grid-style management” was introduced as the lowest level of urban governance below urban subdistricts as the most basic “unit of digital city management.” Borrowing from computing language, grids were designed to employ mapping and geo-coding technology to collect, manage and rationalize data in China’s sprawling urban landscapes.¹² Their functions were shaped by two early policy experiments, the first in Beijing’s Dongcheng district in 2004, and the second in Zhejiang’s Zhoushan Municipality in 2007. In both cases, urban district governments divided their jurisdictions into three subordinate levels of grids: traditional neighborhoods were designated as “large grids” that contained smaller communities (“medium grids”), within which existed even smaller residential organizations (社区); these were further subdivided into grids of roughly 10,000 square meters each, each managed by several dedicated personnel.¹³ Whereas Dongcheng’s focus on dispute resolution tended in the direction of stability maintenance (维稳), the Zhoushan experiment linked grid management primarily to public service provision.¹⁴

The 18th Central Committee’s Third Plenum in November 2013 officially endorsed both functions: as part of Xi’s “innovative social management system” (创新社会治理体制), grid management was to “coordinate social relations and resolve social problems” (协调社会关系, 解决社会问题) and deliver “socialized services” (社会化服务) by developing “grassroots comprehensive [online] service management platforms” (基层综合服务管理平台). The April 2015 “Opinions on Strengthening the Construction of the System of Prevention and Control in Maintaining Public Law and Order” (关于加强社会治安防控体系建设的意见)¹⁵ directed local governments to implement grid management in urban centers across all municipalities, counties, and districts by 2020. Significantly, this was to be accomplished by developing comprehensive online service management platforms at three levels: counties (including cities, districts, and banners) (市、区、旗), urban subdistricts (街道), and neighborhood organizations (社区). Locales in which “conditions allowed” were pushed to develop online management ahead of schedule. By the end of 2016, 93 percent of Chinese urban and rural communities reported having successfully implemented grid management systems based on “big data chains”

(大数据链) capable of “integrating multiple networks into a single system” (融多张网为一张网), transforming single-line chains of command into comprehensive systems “with unified management and multi-functionality” (统一管理、一员多用).¹⁶

Pre-pandemic grid-style management thus involved a potent blend of the comprehensive “platformization” of high-tech digital tools, and cutting edge experiments in grassroots policing that built upon much older governance models. For example, one neighborhood organization’s 2022 call to set up a “decimal household” (十户长) pilot registration system for sub-grid level COVID control in Sichuan’s Zigong was widely mocked online as a throwback to the feudal era. A blogpost entitled “I’d thought we were returning to the Cultural Revolution, not the Qin Dynasty” (原以为是倒退到文革, 没想到倒退到了秦朝)¹⁷ made the rounds, with netizens drawing parallels between the proposed pilot and the compulsory census registration and control system (编户齐民)¹⁸ of the Warring States Period, or to the conscripted “thousand households” battalion system (千户制) imposed by Genghis Khan and maintained during the Yuan Dynasty.¹⁹ Party-state officials, however, invoked more recent models: by 2018, Zhejiang was promoting a grid-style management program in Taizhou’s Luqiao District based on the celebrated “Fengqiao Experience” (枫桥经验)²⁰ of the Mao era, which focused on “mobilizing and relying on the masses, steadfastly refusing to remand conflicts to higher authorities by solving them on the spot, thereby lowering arrests and improving public security” (发动和依靠群众, 坚持矛盾不上交, 就地解决, 实现捕人少、治安好).²¹

However, crucially, the grid management system was from its inception conceived as a vast data collection and digitization effort that would rely on hi-tech tools to link grassroots social management to the formalized administrative structure of urban districts and above. As early as 2017, for example, Fuzhou Municipality’s grid management system linked together seven platforms including government affairs data, video surveillance, public-facing hotline services, emergency crisis command, a tailor-made “e-gov” app for grid workers, and a public-facing “eFuzhou” app for residents that enrolled over a million users.²² The “Safe Zhejiang” app, also rolled out in 2017, solicited information from local residents which was uploaded to a “social governance integrated command center” featuring giant screens displaying video-surveillance feeds alongside “mood” charts flagging up grassroots issues with “problem areas” flashing red. The command center dispatched orders to local officials, grid managers, and various volunteers, monitoring developments in real time.²³

The “eFuzhou” and “Safe Zhejiang” models were adopted and quickly spread: a February 2019 Central Committee Notice called for grassroots grid work to “achieve ‘multi-network integration’” (实现“多网合一”) by feeding data captured by grassroots grid workers engaged in “Party building, comprehensive management, community governance, digital urban management and other systems” (党的建设、综合治理、社区治理、数字城管) into “integrated information systems and command control platforms” (一体化的信息系统和综合指挥平台). Street-level video surveillance was also added, “in order to realize interconnection, information sharing, real-time monitoring and comprehensive monitoring assessments” (实现互联互通、信息共享、实时监控、综合监测).²⁴

The unexpected arrival of COVID in 2020 greatly accelerated the process of digitizing grassroots grid governance. Within twenty-four hours of the Wuhan lockdown, China’s National Health Commission ordered all local governments to implement “grid and blanket-style management” (实施网格化、地毯式管理). Full- and part-time staff were mobilized and organized into teams to “contact households to ensure that various prevention and control measures are effectively implemented, with no dead ends” (联系到户，确保各项防控措施得到切实落实、不留死角). Neighborhood organizations (社区) mobilized the grid management system “making full use of big data tools” (充分利用大数据的手段) to monitor the health and movement of all residents, manage their close contacts, and report abnormalities to superordinate levels.²⁵ At the Politburo Standing Committee meeting in February 2020, Xi likened the national fight against COVID to a game of chess (一盘棋), calling upon Party committees and all levels of government to strictly obey the “unified command, coordination and dispatch” (统一指挥、统一协调、统一调度) of Central Committee orders; the grassroots grid-style management system was conceived as the chessboard upon which the match against the virus would be played out.²⁶

Yet because the grid management system remains outside the formal structure of the Party-state,²⁷ its role in managing the pandemic was largely quasi-legal: neither urban subdistricts (街道) nor neighborhood organizations (社区) were legally empowered to determine local COVID prevention and control policies, seal off gated communities or residential buildings, or forcibly enter private homes. Grid workers, including the so-called “big whites” (大白) that formed the backbone of on-the-ground “zero-COVID” enforcement teams, had no legal authority or decision-making power to prevent residents under quarantine from seeking medical assistance, or to seize their pets or personal property.²⁸ Technically, grid workers could only compel, and not command, social

compliance from residents, as even the *People's Daily* openly acknowledged at the start of the pandemic.²⁹

The sidestepping of clear legal mandates to mount a locally effective pandemic response was greatly assisted by the creation and adoption of digital tools that appeared to devise a new nationwide algorithmic standard of COVID-19 governance,³⁰ thereby legitimating the quasi-legal “pandemic state-building described by An and Zhang.³¹ The nationwide activation of grassroots governance organizations alongside the quasi-compulsory adoption of digital monitoring and reporting enabled a rapidly scalable expansion of the Party-state’s capacities for social control under the state of emergency.

Digitizing social control

The health code apps that enabled the Party-state to extend its reach were the product of collaboration between large tech companies and various levels of government during the early stages of the pandemic. Accessed via Tencent’s WeChat and Alibaba’s Alipay platforms, they were multifunctional by design: they served as officially recognized COVID health status certificates, travel passes, vaccination records, and, sometimes, as purported contact tracing devices. Tied to the national ID number of all PRC citizens, the health code used a variety of big data mining technologies in tandem with user self-reporting to facilitate the contact tracing, quarantine, and disease management work largely carried out through the grid management system.

The app’s algorithm sorted people into one of three scannable colored QR codes: green (meaning that the user was at low risk of transmitting COVID to others, and was therefore afforded free movement), yellow (signalling a moderate risk of transmission, requiring the user self-isolate for one week), and red (signalling that the user was at high risk of transmitting the virus, requiring a mandatory two-week quarantine). The bearers of yellow and red health codes were furthermore required to produce a series of negative PCR test results before restrictions could be lifted, and their health code switched. After May 2021, an additional yellow symbol was added to indicate the user’s vaccination status—either around the borders of the QR code or as a logo in the center of the code itself.³²

Two health codes were initially developed in early February, in Shenzhen and Hangzhou, the home bases of Tencent and Alibaba, respectively. The initial tri-color health code was created using the personnel access authentication program in Tencent’s headquarters in Shenzhen as a launchpad during the first week of February. Tencent was able to scale up a version of their system as a WeChat-based mini-program on February 9, 2020, making Shenzhen the first city to

adopt a smartphone-based health code. The Tencent Health Code app was quickly rolled out to Guangdong, Sichuan, Yunnan, Guizhou, Shanghai, Tianjin, Chongqing and elsewhere, supporting over 100 million users within days.³³

Meanwhile, in early February, the Hangzhou Municipal Government had implemented the highest level pandemic control measures (管控措施的最严禁令), after 113 cases were reported in the city (28 of which appeared in Yuhang District). The following day, on February 4, the Yuhang District Epidemic Prevention and Control Leading Working Group convened a brainstorming session with software engineers from Alibaba Cloud Services, DingTalk, QQQ, and Uniview Technology. Working around the clock, the coders devised a tri-color “health code” app on February 5 that was piloted the next day among employees within Yuhang District tech firms, which were operating under a “digital closed loop” system (数字化闭环). The working group further simplified the system in already use for tech employees in order to create a version suitable for city-wide adoption. On February 11, the Hangzhou Municipal Government announced the release of its tri-color health code; Alipay made it available to local users less than twenty-four hours later. On February 15, the General Office of the State Council directed Alipay and Alibaba Cloud Services to accelerate the development of a scalable, nationally integrated platform for epidemic prevention and control capable of processing and assigning individualised health codes nationally. Three days later, Zhejiang, Sichuan, and Hainan were able to be added to the system via Alipay, registering a total 15 million users, and allowing a resumption of normal economic activities in those areas in which they were adopted.³⁴

The swift and sweeping adoption of these apps gave the digital health code system a “quasi-compulsory” dimension: although there was never a clear-cut legal obligation for citizens to download local health code apps in China, most users were compelled to “opt-in” as a matter of necessity, given the pervasive requirement-- policed largely by grassroots grid workers—to display and scan health codes to use public transportation, and enter public spaces.³⁵ A 2020 *New York Times* analysis of the Alipay-linked health code developed in Hangzhou found that, as soon as a user granted the software access to their personal data, a part of the code not visible to the user sent the location, city name and an identifying code number to a server controlled by the local Public Security Bureau, arguably “setting a template for new forms of automated social control that could persist long after the epidemic subsides.”³⁶

Critically, both apps were initially based upon systems already in place in high-tech workplaces in China: the Tencent app was based on their in-house personnel access authentication management system; the Alibaba app was

developed from DingTalk (钉钉), an employee messaging platform in use in Alibaba's Shenzhen headquarters.³⁷ The fundamental technical design of both apps was driven by the aim to ensure “safe and orderly return to work” (安全有序返岗复工) in tightly controlled “closed loop” (闭环) workplaces via large-scale “point-to-point” (点到点) transfers of employees from one geographically anchored locale to another, in many cases with local grid workers handling the transfers at either end. The expectation of curtailed movement was built into the technical specifications of the health code system.³⁸

However, local governments always retained the ability to control and alter the algorithmic rules that produced user health codes, input selective data, and access the data collected via local health code apps.³⁹ Broadly speaking, a user's health code status was partly based on information submitted by the user, which was then combined with locational data collected on public transport systems, “site entrance code” QR scans (门铃码), and base station locations. But a significant part of the data that produced an individual user's health code status was added by local government departments. This included the concentration of confirmed cases in particular locations, local variations in population density, and the numbers of people transiting through particular places at given times.⁴⁰ Local governments could also introduce other specific requirements: for example, when the Alibaba Cloud IT team that designed the Zhejiang Health Code app designed the “Suzhou City Code” (苏城码), they modified the algorithm at the demand of local Suzhou officials, allowing them to track “key populations” (重点人群) in different areas of the city: Suzhou officials were able to mark the health status of the 8 million migrants working in the city as “provisionally safe,” but also retained the ability to revoke that status with relative ease.⁴¹

Perhaps more to the point, the technological specifications of China's health code apps differed substantially from those of Google- and Apple-created apps in use elsewhere, which relied chiefly upon Bluetooth to facilitate contact tracing. The Chinese health codes worked chiefly to control population movement; they generated a numerical score based on perceived collective risk by pooling big data drawn from public nearby service entities and base locations.⁴² Thus, unlike the Bluetooth-based Google and Apple apps, which empowered individual users by alerting them if they likely came into close proximity with a confirmed COVID case, China's health codes were designed to analyze various regional and local large data sets to assign individual users scores based partly on the likelihood proximal contact.⁴³

These risk calculations were made at the local level, reflecting the shifting priorities of local authorities on the ground. Data fed into the health app system

involved individual and population profiling—generally carried out by grassroots grid workers-- but was then evaluated by local authorities who faced sanctions if they were perceived to be “lying flat” (躺平) in the face of Beijing’s “zero COVID” demands. With the arrival of the more transmissible Omicron variant only weeks before the Twentieth Party Congress, pressure on local authorities mounted precipitously, and risk margins tightened. A series of authoritative “Zhong Yin” (仲音) editorials appeared in successive issues of the People’s Daily in mid-October 2022 sternly warning local officials of the imminent danger of relaxing epidemic prevention and control efforts at the grassroots,⁴⁴ provoking “a doubling down on the preventative logic, intervening even before the actual occurrence of close contacts,”⁴⁵ and prompting the imposition of excessively stringent control measures in many locales.

The regional and local modifications thus produced an unwieldy and deeply fragmented system in which codes were not recognized by other jurisdictions.⁴⁶ Jiangsu Province proved particularly difficult to homogenize, with the provincial “Su Health Code” (苏康码) not adopted in Nanjing, which developed its own system, “Ningguilai” (宁归来); Suzhou residents adopted the “Su City Code” (苏城码), and Wuxi, the “Xi Health Code” (锡康码), and so on. Likewise, residents of populous Guangdong Province were split between at least three different health code systems: Guangzhou’s “Sui Health” (穗康)、Guangdong’s “Ao Health Code”(粤康码), and Shenzhen’s “Shen i Ni”(深 i 您). Within large cities, districts and even neighborhood organizations adopted different apps, leading to what became known as the “one person, six codes” (一个人六个码) phenomenon.⁴⁷ Despite claims that all of the locally derived codes would eventually link to a national health platform (国家政务服务平台) introduced in February 2020, by the end of March, only seven provincial health codes could be accessed on the national health platform via the WeChat mini-program, and eighteen provincial health codes were crosslisted on Alipay’s version. Instead, locally tailored health codes—from Beijing’s (北京健康宝), Shanghai’s Suishen Code (随申码), to Guangzhou’s (粤健康码)—remained for the most part stubbornly incompatible.⁴⁸

Yet, as Qi Tongjun, the Director of the Data Resources Department of Hangzhou Data Resources Management Bureau, observed, the oft-cited complaints concerning the incompatibility of technology and standards concealed a deeper motive: the self-interest of local authorities empowered by pandemic control policies. Local government departments, Qi notes, are generally unwilling to share or surrender the vast stores of data that they have accumulated because of the power it represents.⁴⁹ Likewise, some have proposed that the inability of Beijing to link all local apps to the national health

platform was likely caused by either bureaucratic intransigence or interagency communication blockages, or a combination of both.⁵⁰ As Xiong Dingzhang, a senior partner of a Beijing law firm and a Beijing resident noted, “The neighborhood organization (社区) has a lot of information, and now even the property management office where I work now knows where I live, something that was unimaginable in the past.”⁵¹

Overreach and Social Control in post-COVID zero China

On March 2, 2023, Wuxi Municipality staged a public ceremony to mark the erasure of the first batch of one billion pieces of data collected by the “Xi Health Code” (锡康码) during the pandemic. Presumably to reassure its citizens that the data was actually wiped clean, the city government invited in a third-party auditor and notary official to witness the deletion. On the same day, the city officially retired more than forty sentinel codes and special public transportation passes that had been introduced as part of its COVID control efforts. “Wuxi has become the first prefecture-level city in the country to destroy the personal data of citizens collected during the pandemic,” local authorities announced, “a gesture that embodies our ‘people-centered’ concept of governance, [and] our commitment to governing by law.”⁵²

However, unsurprisingly, few have chosen to follow Wuxi’s example since restrictions were lifted. Instead, many locales are trying to hold onto the power and discretion granted to them under the COVID-sparked “state of emergency,” and are busily repurposing the big data tools that sustained them. Shanghai, for example, decided to retain virtually all of the functionality of its “Suishenban” (随申办) app, although the COVID-status “Suishen code” (随申码) part of the app was taken off-line in January 2023.⁵³ As of September 29, 2022, the Guangdong Provincial Public Security Department rolled out a new WeChat applet, the “Ao Residence Code” (粤居码), basically replacing the “Ao Health Code.” The new app is mandatory for Guangdong-based household registration certificate holders, migrants and foreign residents,⁵⁴ and links a resident’s ID number, address and other personal data together in a scannable QR code. It allows users to enter libraries, museums and hospitals, effectively granting access to public spaces and “bundled conveniences” to an officially recognised subset of residents⁵⁵ while providing local officials with an easy means of excluding objectionable “key populations” from public places at will. Other provinces, like Fujian, are purportedly following suit;⁵⁶ and at the national level, the Fourteenth Five-Year Plan released in November 2022 includes an ambitious directive for a “national health informatization program” that will feed the medical records and other personal data of all PRC citizens into a

digital database maintained at the national level that will link to a downloadable app for residents.⁵⁷

Perhaps the most ambitious repurposing of a local COVID health app was proposed by Suzhou, whose Municipal Party Secretary announced the roll out of the “Suzhou City Civilization Code” (苏城文明码) extension in May 2020. The new code was designed to allow its citizens with “high civilization points” (文明积分等级高) to enjoy priority access to public goods and spaces, and to expose those who fail to meet city benchmarks.⁵⁸ The original plan linked two indices-- a “civilized traffic index,” and a “civilized volunteer score”—to the Suzhou health code app, encouraging each citizen to develop “civilized transportation habits, volunteer service, civilized trash and recycling practices, civilized dining, a polite demeanor, civilized internet viewing habits, and become honest and law-abiding.” A firestorm of fierce online criticism ensued: could “civilization” be quantified, and should such measures be used to restrict access to public goods? How would children, vulnerable people, and the elderly participate in the “extra points” system? If people are unable to participate, will they be deemed “uncivilized,” and therefore unfit to enter public spaces? One professor at Nanchang University Law School weighed in to say the mere idea caused him to break out in a cold sweat: “citizens indeed stand equally before the law,” he noted, “but not equally before a ‘civilization app’.” The new extension was piloted on September 3. Three days later, after a vicious onslaught of “heightened public opinion,” it was listed “pilot testing concluded” (测试结束) and no longer available for download.⁵⁹

If the far-reaching aspirations of the Suzhou Party Secretary were dashed by the lack of public enthusiasm for his new proposed app, the post-pandemic future of Beijing’s “sinking” of administrative power to the subdistrict level (街道) and neighborhood organizations (社区) has not abated. Last year, in the name of standardizing the services offered by neighborhood organizations and urban subdistricts, the Beijing municipal government directed both to establish fully informationalized service centers; Shanghai announced plans to both increase and upgrade the staff of its neighborhood organizations, and Shenzhen also took steps to increase to both further empower neighborhood organizations and increase oversight over their activities.⁶⁰

As the foregoing suggests, China’s recent “pandemic state-building” has highlighted the increasing dependence of the Party-state on private big-tech firms in pursuing its vast social governance ambitions. State-owned telecoms like China Mobile are no longer the best source of accurate user geolocation data: the pandemic proved that the GPS and other user data held by Alibaba and Tencent are far more reliable and precise, although not (yet) easily accessed by

local agents. As private firms, Alibaba and Tencent have denied providing user data to state officials; with both seeking to expand overseas, being seen to readily hand over user data could undermine their longer term commercial interest.⁶¹ Unsurprisingly, the Party-state moved quickly to increase its control: by the end of the first year of its crackdown in the high-tech sector, a trillion in market value was shaved from Tencent, Alibaba, Kuaishou and Meituan.⁶² At least another trillion was lost the following year. More important, the government announced in January 2023 that is taking so-called “golden shares”—special management shares claimed by central authorities since 2015 that entail special rights over business decisions-- in both Alibaba and Tencent,⁶³ which will no doubt secure the state’s share of the data and resources of both.

Another aspect was the surprising compliance of the population with arrangements that curtailed their freedom and livelihoods. In a now-deleted September 2020 social media post, a think tank researcher presented the results of a survey of nearly 6,000 Chinese citizens, over 90% of whom expressed high levels of confidence in the health app system, and said that they hoped that it would continue to be in use even after the pandemic had ended.⁶⁴ After a cascade of data leaks⁶⁵ and numerous tragedies caused by overreach that ultimately fed into the A4 protests in November 2022 and the lifting of lockdowns across the country, public opinion on the health code and local government data control had shifted. In March 2023, NPC and CPPCC representatives took up the issue of public interest in the health code data, with delegates in each body proposing that any health code data retained by government entities should be deleted or anonymized.⁶⁶

Xi’s China, barely twenty years removed from the outbreak of the SARS crisis, is already a vastly different regime. Whereas handling the SARS outbreak in the Hu-Wen era required recentralizing power and authority alongside a bold effort to resolve long-standing interagency problems, the handling of COVID required something of a reverse course for Xi Jinping. Manifestly neither a proponent of the centripetal rebalancing of power, nor of the digitalized resolution of social problems, he was pushed to reconsider both issues in tandem. The post-pandemic political order may be experienced rather differently at the social grassroots; but whether those changes will remain, and for how long, will tell us much about the capacity of Xi’s Party-state to manage its tendencies to overreach.

¹ 朱远祥, “多地村镇银行线上取款难背后: 发起行高管被通缉, 有企业涉嫌非吸,” 澎湃, May 19, 2022, <https://archive.ph/30PAh>.

² 陳進安, “河南 4 村鎮銀行提現難涉數百億, 大批民眾鄭州抗議要求討回存款,” May 27, 2022, 香港 01, <https://archive.ph/4gAIh>.

- ³ 陈品洁,“河南村镇爆雷储户维权抗议 遭郑州公安鸣枪驱散,” June 29, 2022, RFA, <https://archive.ph/atPmM>; 古亭,“储户郑州示威遭遇警方暴力多人受伤 政府出台解决方案,” July 11, 2022, RFA, <https://archive.ph/q7KEN>.
- ⁴ “暴力鎮壓與健康碼賦紅：經濟下行期的維權抗爭能否突破國家的管控?” 短媒體, August 17, 2022,
- ⁵ 中国日报,“又现赋红码, 河南怎么了?” 中国日报, July 10, 2022, <https://archive.ph/LioRk>; 毒哥&玉成,“郑州回应「再赋红码」事件, 刚罚完就敢再来, 这次借口都懒得编了,” 毒鸡汤, <https://archive.ph/GxIA5>; “中國河南就「紅碼」事件懲處多名官員 但民怨未消,” June 23, 2022, BBC 中文, <https://archive.ph/KSxhn>.
- ⁶ “中国河南健康码“赋红”事件引公愤 追责呼声高,” June 18, 2022, BBC 中文, <https://archive.ph/SWNXX>; 石青川, 张宇轩,“河南健康码变色之警示 社区: 签下‘保证书’才能转绿码,” June 30, 2022, 中国经济周刊 (第 12 期), <https://archive.ph/UtU2G> “谢艳玲起诉河南卫健委随意赋‘黄码’违法,” June 21, 2022, RFA, <https://archive.ph/OrMYz>.
- ⁷ “中國河南有維權儲戶健康碼「被轉紅」 防疫技術淪為「維穩」工具? ,” June 14, 2022, BBC, <https://archive.ph/l2ejf>.
- ⁸ 石青川, 张宇轩,“河南健康码变色之警示 社区: 签下‘保证书’才能转绿码,” June 30, 2022, 中国经济周刊 (第 12 期), <https://archive.ph/UtU2G>.
- ⁹ Susan Shirk, *Overreach: How China Derailed its Peaceful Rise*. New York: Oxford University Press, 2022.
- ¹⁰ Yutian An and Taisu Zhang, “Pandemic State-building,” 8, 25.
- ¹¹ Yutian An and Taisu Zhang, “Pandemic State-building: Chinese Administrative Expansion Since 2012,” forthcoming in *Yale Law & Policy Review*, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4356026, 1, 4.
- ¹² 刘春呈,“疫情社区防控中对网格化管理的再审视,”《理论月刊》2020, 6, 70.
- ¹³ Minxin Pei, “Grid Management: China’s Latest Institutional Tool of Social Control,” *China Leadership Monitor*, March 1, 2021, <https://www.prcleader.org/pei-grid-management>.
- ¹⁴ Jean Christopher Mittelstaedt, “The grid management system in contemporary China: Grass-roots governance in social surveillance and service provision,” *China Information* 2021, 36:1, 5-7.
- ¹⁵ 国办印发《关于加强社会治安防控体系建设的意见》, April 13, 2015, <https://archive.ph/I4Jlz>
- ¹⁶ 新华社,“社会综合治理走出网格化服务管理精准之路,” September 19, 2017, <https://archive.ph/kV0uT>.
- ¹⁷ 中国数字时代,“原以为是倒退到文革, 没想到倒退到了秦朝,” September 20, 2022,
- ¹⁸ 社正, 傳統政治社會結構之行程 (台北: 聯經出版社, 2018).
- ¹⁹ See, for example, Jinping Wang, “Clergy, Kinship and Clout in Yuan Dynasty Shanxi,” *International Journal of Asian Studies* 13:2 (2016), 221.
- ²⁰ See, for example, Juan Wang and Yu Mou, “The Paradigm Shift in the Disciplining of Village Cadres in China: From Mao to Xi,” *The China Quarterly* 248 (S1) (2021), 195.
- ²¹ “浙江“枫桥经验”的台州实践登上《人民日报》头版,” 澎湃, November 14, 2018, <https://archive.ph/4166w>.
- ²² 新华社, “社会综合治理,” <https://archive.ph/kV0uT>.
- ²³ Jeremy Page and Eva Dou, “In Sign of Resistance, Chinese Balk at Using Apps to Snitch on Neighbors,” *Wall Street Journal*, December 29, 2017, <https://archive.ph/DzJoE>.
- ²⁴ “中共中央办公厅 国务院办公厅印发《关于推进基层整合审批服务执法力量的实施意见》,” February 1, 2019, <https://archive.ph/1NNZH>; Jean Christopher Mittelstaedt, “The grid management system in contemporary China,” 7.
- ²⁵ 疾病预防控制中心,“关于加强新型冠状病毒感染的肺炎疫情社区防控工作的通知,” January 25, 2020, <https://archive.ph/JlICT>.
- ²⁶ “中共中央政治局常务委员会召开会议 研究加强新型冠状病毒感染的肺炎疫情防控工作 习近平主持会议,” February 3, 2020, <https://archive.ph/YJCU3>.
- ²⁷ 安安,“有一种力量, 叫“中国网格员,” February 19, 2020, 长按评论, <https://archive.ph/96w0L>.
- ²⁸ 刘春呈,“疫情社区防控中对网格化管理的再审视,” See also 财经新媒体,“如何用法律武器阻止违规封控,” November 27, 2022, <https://archive.ph/H4jOC>, also widely recirculated on Weixin: <https://archive.ph/MmdaJ>.
- ²⁹ “战斗在社区疫情防控第一线,” 人民日报, February 7, 2020, <https://archive.ph/xtnrO>.
- ³⁰ Yu Sun and Wilfred Yang Wang, “Governing with health code: Standardising China’s data network systems during COVID-19,” *Policy & Internet* 14:3, 2022.
- ³¹ Yutian An and Taisu Zhang, “Pandemic State-building.”
- ³² Wanshu Cong, “From Pandemic Control to Data-Driven Governance: the case of China’s health code,” *Frontiers in Political Science* 3 (April 2021), 5.

- ³³ 腾讯科技,“腾讯防疫健康码累计亮码破 16 亿人次!” March 10, 2020, <https://archive.ph/yhTf2>; 承天蒙,“健康码已落地全国近 200 个地市, 数字化管理抗疫成全国标配,” 澎湃, February 24, 2020, <https://archive.ph/iZSyk>; 中华人民共和国民政部,“今天你亮码了吗?” May 8, 2020, <https://archive.ph/QCQeW>; 张云山,“七天,“健康码”是怎样从杭州西溪路刷到全中国?,”浙江新闻, February 18, 2020, <https://archive.ph/KCM8t>
- ³⁴ “‘战疫’神器! 7 天跑向全国的‘健康码’长啥样,” 经济日报, February 21, 2020, <https://archive.ph/trxiP>; 张留, 唐骏焱,“健康码, 如何从杭州‘跑’到全国,” 浙江日报, March 16, 2020, <https://archive.ph/n8Aid>; 承天蒙,“健康码,” <https://archive.ph/iZSyk>.
- ³⁵ Wanshu Cong, “From Pandemic Control to Data-Driven Governance,” 5.
- ³⁶ The code string was labeled “reportInfoAndLocationToPolice.” See Paul Mozur, Raymond Zhong and Aaron Krolik, “In Coronavirus Fight, China Gives Citizens a Color Code, With Red Flags,” *New York Times*, March 1, 2020, <https://archive.ph/jMKI7>.
- ³⁷ 云希,“健康码的‘长征’” 江西广播电视台, April 3, 2020, <https://archive.ph/2EM8r>.
- ³⁸ 新华社,“安全有序出行 周密精细管理——聚焦疫情下的农民工返岗复工,” February 23, 2020, <https://archive.ph/egcvQ>. A study of the algorithmic triggering of the “yellow” health code status across 98 jurisdictions conducted by a Chinese media outlet in 2022 was unable to determine clear guidelines across locales: 舒怡尔 赵佐燕 卫瑶,“各省政策和 98 条故障留言告诉你, 健康码是怎样变黄的?” 澎湃, January 18, 2022, <https://archive.ph/ENXux>.
- ³⁹ “‘战疫’神器!,” <https://archive.ph/trxiP>; 金叶子,“科普帖: 健康码转码背后, 谁有权力赋你红码,” 第一财经, June 14, 2022, <https://archive.ph/efPea>.
- ⁴⁰ 承天蒙,“健康码”; 金叶子,“科普帖.”
- ⁴¹ 云希,“健康码的‘长征’.”
- ⁴² “健康码: 人员流动的健康保障” 澎湃, April 9, 2020 provides a diagram that illustrates the variety of sources of data, including that inputted by local government departments, that produced the “travel itinerary card” code in use during the pandemic <https://archive.ph/OiYta>; Yuan Yang et.al., “China, coronavirus and surveillance: the messy reality of personal data,” April 02, 2022, <https://archive.ph/ApUOz>.
- ⁴³ Wanshu Cong, “From Pandemic Control to Data-Driven Governance,” 5
- ⁴⁴ See, for example, 仲音,“增强对当前疫情防控政策的信心和耐心,” 人民日报, October 10, 2022, <https://archive.ph/ucY4N>; 仲音,“‘动态清零’可持续而且必须坚持,” 人民日报, October 11, 2022, <https://archive.ph/kFFYi>; 仲音,“‘躺平’不可取,‘躺赢’不可能,” 人民日报, October 12, 2022, <https://archive.ph/oWEnW>.
- ⁴⁵ Wanshu Cong, “From Pandemic Control to Data-Driven Governance,” 5.
- ⁴⁶ 胥大伟,“健康码遭层层‘加码’ 全国范围互认真的这么难吗?” 中国新闻周刊, April 28, 2020, <https://archive.ph/Ayyhv>.
- ⁴⁷ 陆柯言,“一个人六个码 健康码为什么这么难统一?,” March 12, 2020, Sina.com, <https://archive.ph/JOVeP>.
- ⁴⁸ “复工大计健康码: 阿里腾讯神仙打架 一码通天下有多难,” March 25, 2020, Sina.com, <https://archive.ph/otppp>.
- ⁴⁹ 胥大伟,“健康码遭层层‘加码’?”
- ⁵⁰ “腾讯健康码升级‘城市码’ 上线 100 天覆盖 10 亿用户,” 中国新闻网, May 5, 2020, <https://archive.ph/h4gJ2>.
- ⁵¹ 姚佳莹,“疫情后, 健康码可否升级‘全能码’?” 财经杂志, April 16, 2021, <https://archive.ph/G5tWV>.
- ⁵² “无锡销毁首批 10 亿条涉疫个人数据,” 澎湃, March 02, 2023, <https://archive.ph/cA4sH>; “疫情期间收集的个人数据, 是该销毁了,” 新京报, March 4, 2023, <https://archive.ph/2vPRy>.
- ⁵³ “上海‘随申办’核酸码功能已下线, 做核酸可使用随申码,” January 9, 2023, <https://archive.ph/NtBkH>.
- ⁵⁴ 广东省公安厅,“申请粤居码是不是自愿? 哪些人是必须申领的? 对于老人和儿童等不便使用智能设备的人群, 是不是可以继续保持使用实体身份证或者居住证作为居住凭证 (类似没有健康码也可以用身份证进入高铁站)?,” December 08, 2022, <https://archive.ph/YPJEB>; 歪脑,“‘润’是一场个人对国家的消极反抗, 却也暗示了社会运动的新可能,” May 01, 2023, <https://archive.ph/PmPGV>.
- ⁵⁵ 茂名市茂南区人民政府,“‘粤居码’是什么码? 办事超方便!” June 21, 2022, <https://archive.ph/jRc9c>; 公安局茂南分局,“政府信息公开,” September 29, 2022, <https://archive.ph/IXSHM>.
- ⁵⁶ 林文河,“福建省一码通办的实施路径研究,” 福建电脑, 2022 (12):53-56.
- ⁵⁷ 中华人民共和国国家卫生健康委员会,“关于印发‘十四五’全民健康信息化规划的通知,” November 17, 2022, <https://archive.ph/ZLrr3>.

⁵⁸ 苏州市文明办,“以‘五新’行动为抓手 高质量推进文明城市全域化 苏州市召开文明城市建设工作推进会,” May 12, 2020, <https://archive.ph/EFfGB>.

⁵⁹ 郑新钰 “苏州‘文明码’引争议 文明如何‘加码’,” September 14, 2020, 中国城市报, <https://archive.ph/X1b6y>.

⁶⁰ Yutian An and Taisu Zhang, “Pandemic State-building,” 49-51.

⁶¹ Yuan Yang et.al., “China, coronavirus and surveillance.”

⁶² James Kyngge, “China and Big Tech: Xi’s blueprint for a digital dictatorship,” Financial times, September 7, 2021.

⁶³ Ryan McMorro, Qianer Liu and Cheng Leng, “China moves to take ‘golden shares’ in Alibaba and Tencent units,” *Financial Times*, January 13, 2023, <https://archive.ph/PmxYE>.

⁶⁴ 王虹,“调查报告: 疫情后的“健康码”, 可能变得更有,” 人民论坛网, July 28, 2020, <https://archive.ph/mg3fs>.

⁶⁵ The leakage of personal data began almost immediately, even before the health apps had been developed: as early as January 2020, the names and personal details of more than 5 million permanent and temporary Wuhan residents who left the city either due to the outbreak of COVID or Chinese New Year was circulated on WeChat. “被骂“武汉毒人”“要求公开全家信息”超7000武汉公民信息泄露之后,” 知乎, January 27, 2020, <https://web.archive.org/web/20230515075259/https://zhuanlan.zhihu.com/p/104115290>; In August 2022, a hacker identifying themselves as “XJP” claimed to have obtained the personal information of 48.5 million Shanghai residents from a health code database, and sought to sell it online for \$4,000. Eduardo Baptista, “Hacker offers to sell data of 48.5 million users of Shanghai’s COVID app,” Reuters, August 12, 2022, <https://archive.ph/yai9z>.

⁶⁶ “疫情期间收集的个人数据, 是该销毁了.”