



China's Changing COVID-19 Policies: Market and Public Health

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Abstract

After the outbreak of COVID-19 in early 2020, China took fast and decisive measures to successfully contain the spread of the virus within its borders. While the rest of the world saw huge human and social costs in the pandemic, the Chinese mainland for about two years was largely free from COVID. The zero-COVID model, however, met great challenges by early 2022. Despite some efforts to save the zero-COVID model, in November 2022, the Chinese government abruptly abandoned its signature COVID controls during the pandemic and switched to the opposite. This article reviews the evolution of the Chinese COVID policies and places the dramatic turns in the context of the changing Chinese political economy. The findings show that the shifting class interests and actions were an important force behind China's retreat from zero-COVID.

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Introduction

After the initial breakout of COVID-19 at the beginning of 2020, the pandemic quickly took over the entire world and caused huge casualties with extremely high social and economic costs. Although the virus first broke out in China, China was able to contain the virus in a very short time and thus maintained a relatively long time free from COVID. China's strict model of taming the virus was once very successful, especially compared to many other countries with better healthcare resources. In terms of life expectancy, China surpassed the US for the first time during the pandemic.²

This so-called "zero-COVID" model came to an end, however, when the Chinese government abruptly removed the strict virus controls starting from November 2022. This transition facilitated a very fast spread of COVID, and according to the Chief Epidemiologist at the Chinese CDC, 80 percent of the Chinese population has been infected by January 2023 (Glanz, Hvistendahl, and Chang 2023). Figure 1 presents the accumulated confirmed COVID cases per million people in China. The data do not include asymptomatic cases, and the data since November 2022 severely underreport the actual cases considering the 80 percent infection estimate from the Chinese CDC expert, but the upward trend of infection starting in 2022 was more than clear.

² Based on the World Bank databank, data.worldbank.org.

Arguably, China is “the only country in the world that faced its first major wave of infections without making any attempt to slow it” (Glanz, Hvistendahl, and Chang 2023).

What has led to such a sudden retreat from “zero-COVID”? There are some popular answers, but they tend to be incoherent and/or detached from the realities in China. One typical explanation highlights the impact of the social protests in several major Chinese cities before China’s shift in policies (Bradsher, Che, and Chien 2022). In other words, this view alleges that the protests forced the Chinese government to drop the entire “zero-COVID” model. Although the protests were generally against strict COVID controls, entirely changing course was not necessarily their goal. More importantly, these protests were small and scattered, and their influences were limited, thus it is misleading to exaggerate the impacts of these protests on the actual policy changes.

Another popular opinion argues that “zero-COVID” has greatly hurt the Chinese economic outlook, so it was natural for China to eventually move on to a new phase (for example, see Huang 2022). As we will discuss in detail below, the Chinese economy indeed met great challenges in 2022. Nonetheless, in 2020 and 2021, the Chinese economy was doing relatively well under “zero-COVID” (see more details below). Therefore, “zero-COVID” itself is not by nature economically damaging. Moreover, the Chinese economy has suffered from a range of neoliberal policies (more details below), but the government rarely changes them. So, it is at least incomplete to attribute the policy changes to an ambiguous impact from economic considerations.

There is also an explanation that focuses on personal power and factional struggles among the Chinese elites. For example, many commentators view Chinese President Xi Jinping as the

ultimate conservative that sticks to "zero-COVID", while the former premier (Li Keqiang) and the current premier (Li Qiang) represent the opposing forces. According to this view, China maintained "zero-COVID" mainly because the top leader Xi wanted to keep his signature policy, and the other factions won the upper hand in 2022 and then adopted different policies (see versions of this story in Nakazawa 2022, Zhu, Tian, and Tham 2023). Among other things, this view overly simplifies the Chinese political economy. China is not ruled by one individual, and there is no evidence to suggest that the Chinese elites had any lasting significant differences in the "zero-COVID" model. Xi Jinping was reelected as the number one leader of the Communist Party of China (CPC) in 2022 and the National Chairman (President) in 2023, which means that no other faction managed to challenge his leadership. These reports often portray the current premier Li Qiang to be active in ending "zero-COVID", but it is important to recognize that Li is a long-time colleague and ally of Xi. Therefore, the stories of factional power struggles are unlikely to shed any new light on this issue.

Different from these views, this article presents a political economy explanation of the rapid changes in China's COVID policies. I argue that the COVID pandemic happened at a particularly interesting conjunction in contemporary Chinese history. After decades of rapid growth, China slowed down remarkably after the mid-2010s. Public health in China was under attack for years following the economic downturn and austerity policies. The unexpected COVID crisis and the responses created a unique political space that promises a new feasible economic model for China. The formation of the "zero-COVID" model was based on wide support from different social classes. However, such wide-range support gradually waned, especially following the strikes of the bureaucrats and capitalists in 2022. Later, workers' strikes, and urban social protests further

reinforced this new coalition for ending “zero-COVID”. The Chinese elites probably already reached a consensus on dropping "zero-COVID" for a long time, although they waited until after the 20th Congress of the CPC to finally execute it.

The next section presents the historical context of the COVID crisis in China, as well as the challenges facing the Chinese public health system in the last two decades. The third section discusses the policy reactions to the COVID crisis and the formation of the so-called “zero-COVID” model. The fourth section explores the political economy aspect of the “zero-COVID” model. The fifth section investigates the dramatic policy changes in 2022 which eventually led to the end of the “zero-COVID” model. The last section offers some concluding remarks.

From Sars-Cov-1 to Sars-Cov-2

The COVID crisis was not the only public health crisis China encountered in the current century. China has had two novel coronaviruses in the last twenty years. The first virus, Sars-Cov-1, was discovered in late 2002. The second one, Sars-cov-2, was first noticed in late 2019. The two coronaviruses share much in common, but the two public health crises happened at very different points in the contour of China’s political economy.

The outbreak of Sars-Cov-1 in 2002 led to the SARS epidemic which lasted about a year, during which 813 people died out of 8437 probable SARS cases, or case fatality rate was around 9.6 percent (Feng et al 2009). This was a potentially dangerous disease. In several ways, however,

China was in a strong position to deal with the crisis. By that time, China just largely finished its structural adjustment from the 1990s. Although the reforms resulted in millions of unemployed and worsening inequality, the new capitalist class had much confidence in the Chinese economy, as the fixed assets investment grew rapidly (see Figure 2), and so was the overall economy. This was the start of the arguably Golden Age of the Chinese growth model. Also, for yet unknown reasons, the SARS crisis was relatively short and did not spread to a large portion of the global population. So, the overall impact on the Chinese and global economy and society was limited.

Seventeen years later, however, when the COVID-19 crisis started, the Golden Age of Chinese growth has largely passed. China's economy started to slow down in the mid-2010s, and investment growth declined to unprecedented levels in recent history (Figure 2). The overall fixed assets investment growth rate used to be steadily above 20 percent in the 2000s and early 2010s but dropped below 10 percent since 2016 and the declining trend continued. The private fixed assets investment followed the same trend, and all these suggest that the Chinese economy was already facing serious challenges before the recent pandemic.

To make things worse, China's public health system has regressed over the years since the SARS crisis. China used to have a highly effective public health system in Mao's time. With a very limited budget, it had remarkable achievements such as eradicating smallpox and greatly reducing the spread of snail fever, and syphilis among others. After marketization in the 1980s, however, the Chinese government cut its public health spending and greatly weakened public health institutions. The public health institutions had to find ways to generate profits which run into conflicts with the very concept of "public health", which then led to more than 20 years of chaos according to a leading expert at the Chinese CDC (Zeng 2020). China started to rebuild its public

health system around the time of SARS, and the establishment of the Chinese CDC was part of the efforts. The data suggest that such efforts were short-lived and the Chinese public health system was not necessarily in a better shape than it was in SARS.

Figure 3 shows the share of public health expenditure in the national budget and the number of employees in the Chinese CDC. Despite some different trends in the earlier period, the 2010s was a dismal period for the Chinese public health system as their funding stagnated and the public health workers have been leaving the system. Indeed, local CDC workers have long complained about their low compensations, and researchers have shown that the government support only covered less than half of the daily operations of the nationwide CDCs (Chen et al 2021). The slowing down of the Chinese economy trigger more austerity measures. For example, all these financial problems were further aggravated when in 2017 the Chinese government removed some considerable public health fees previously collected by the local CDCs to further downsize the public sector (Chen et al 2021, Zeng 2020). In short, the Chinese public health system was also in crisis mode right before the pandemic.

Of course, we would never know if the COVID crisis would run a different course if the Chinese political economy and the public health system were in a different status, but at least the damages to Chinese public health over the years likely contributed to the emergence of the pandemic. In fact, as Figure 3 shows, the Chinese CDC and public health regained political attention and received much support since 2020. However, as the pandemic shows, considerations such as profits other than public health often have a much larger impact on the responses to the crisis. This was clear from the beginning from the so-called herd immunity policies in the West, and the opaque and inconsistent measures in much of the world. Even in

China where the state developed a strict “zero-COVID” model, capital and market would eventually claim their triumph, as we shall see below by analyzing the evolution of Chinese policies.

The pandemic and the zero-COVID model

When the news of a novel virus first emerged in January 2020, it caused much confusion and concern among the Chinese population, but few would have guessed it would eventually cause a pandemic that affects millions of people. In retrospect, China could have dealt with the virus better if the public health system was in better shape. Nevertheless, it was remarkable that the Chinese government made a hard but correct decision in a short time frame. According to later accounts, local doctors in Wuhan such as Zhang Jixian first discovered the new symptoms and quickly reported them to the upper-level administration (Li et al 2020). Although the police admonished Dr. Li Wenliang for spreading information online, the government was aware of the new virus and conducted investigations. It did not take much longer until the central government decided to lock down the entire Wuhan city of 10 million people. Outside Wuhan, nearby cities and towns largely followed the lockdown policies. The lockdown was eventually lifted after 3 months (The Associated Press. 2021). According to estimates based on migrant flow and infection rates, a seven-day delay in lockdown would imply a more than 3 times increase in the national infected population by March (Wang et al 2021).

After the unprecedented lockdown, the Wuhan government was forced to experiment with a sudden stop of the market economy, while rapidly increasing healthcare capacity to treat and quarantine the infected residents. For example, the government managed to build two major quarantine hospitals in days (Luo et al 2020). The central government played a decisive role in this process, providing and coordinating huge amounts of goods and supplies as well as medical staff from all over the country, which was in stark contrast to the US case (Lo and Shi 2021). The central government also quickly mobilized the state-owned enterprises to initiate the production of medical masks and other PPEs, which effectively addressed the supply constraints of PPE. In the case of medical masks, China's daily productive capacity increased from 20 million to over 100 million in just a month, largely by mobilizing the Chinese state-owned petrochemical and mechanics enterprises (SASAC 2020).

The then-formed zero-COVID model at least entails the following core elements. First, a certain degree of wartime economic planning was in place. This was first shown in the case of Wuhan City, as 10 million people were under lockdown. According to the official Chinese government white paper on COVID responses in the early months, a "coordination mechanism was established to ensure supply of such products, which involved nine provinces, and 500 enterprises for prioritizing the shipment of supplies in times of emergency" (The Chinese State Council 2020). This system covers the whole range of goods from PPEs to thermal coals and meat and vegetables. As we saw over the globe in the past few years, the market was dysfunctional at least throughout the early phase of the pandemic, and could not deliver needed medical supplies

and other necessities such as food at appropriate prices for a large population.³ In China, this state-community-coordinated good distribution system replaces the previous market mechanism. The state ensures the macro level balance in meeting the basic demands of the area. And the grid-based community workers (government employees) and/ or representatives from residential buildings would contactless distribute the goods to each household. Previously mostly invisible, the community grids started to act as de facto micro-state in maintaining the order of the new social system and providing essential care (Li, Chen, and Zhan 2022).

Second, the public hospitals followed the principle of "maximum hospital admission". The Wuhan government repurposed stadiums and exhibition centers into 16 temporary treatment centers (or fangcang hospitals) with some 14,000 beds (The Chinese State Council 2020). If someone develops mild symptoms (fever/cough), the government will transport them to one of the fangcang hospitals. The treatment is free, thanks to support from the nationwide basic medical insurance and local government subsidies. This proved very effective in preventing the community's spread of the virus, especially for the less contagious variants. Chen et al (2020) conclude that these fangcang hospitals isolated thousands of patients, provided high-quality medical treatment and care, fulfilled an important triage function, and were an important reason for China's successful control of COVID-19 in 2020.

Third, the government implemented layers of health screening which greatly reduced the mobility of residents, in the official white paper's words: "A Tight Prevention and Control System Involving All Sectors of Society" (The Chinese State Council 2020). This was only possible due to

³ Even in a rich market economy like the USA, people struggled to obtain necessities. Even doctors had to go through adventures to get PPEs (from China), see Artenstein (2020).

the tremendous efforts of the government to increase the capacity of testing. In Hubei Province (Wuhan is the capital city) in 2020, the government increased the capacity of nucleic acid testing (or PCR), reducing the testing period from 2 days to 4-6 hours, and increasing the daily testing capacity from 300 in January to more than 50,000 two months later. In cases where community spread has already happened, the local governments can impose lockdown and they often manage to finish massive-scale city-wide PCR testing in hours or days. With the extensive health screening system, even without a new breakout of the virus, everyone needs to show certain proof of health status (known as the green code) to leave their community grid and enter any facilities. One needs to constantly pay attention to various details and participate in regular PCR tests based on each community to maintain such health status. In addition, China also imposed strict border control and drastically reduced international travel to minimize exposure to viruses from abroad.

The Chinese government calls this emerging model the “dynamic zero” policy, emphasizing the fact that it is not necessarily zero-COVID, just aiming to discover and isolate infected ones as quickly as possible. Although the zero-COVID model worked very well in nearly eliminating the virus in China in much of 2020 and 2021, it always remained a highly controversial issue. The implementation of the “zero-COVID” policies has caused economic hardship for those without remote work opportunities and occasionally messed up regular medical care which costs lives. But the strongest critique came from pro-market elites, including medical experts, who disapproved of the model based on various grounds. Many believe that the zero-COVID model is unsustainable because it is not a normal market economy and incurs too many regulations on the economy and society. One leading figure of this opinion was Zhang Wenhong, a Shanghai

doctor who became the leader of the Shanghai City COVID response team and gained national fame during the pandemic (Yuan 2021). For example, Zhang emphasizes the importance of living with the virus and argues that a zero-infection policy would make people's lives too hard (Yuan 2021, Zhang 2021).

The Chinese official tone has been always firmly supporting "zero-COVID" during most of the time in the pandemic, however. The official government programs often include "zero-COVID" as a guideline, and the successful implementation of "zero-COVID" might have become one of the yardsticks for the bureaucrats' promotions. The official media likes to emphasize the fact that China's "zero-COVID" probably saved millions of lives. A strong advocate for "zero-COVID" was former Health Minister Gao Qiang, whose article in the People's Daily's social media in 2021 claimed that living with COVID is not a viable option, and we must choose either humans or viruses (Gao 2021). Such statements from official sources largely settled the debates on zero-COVID within the mainstream media in China before 2022.

Of course, few would go as far as Gao Qiang in this regard. Zero-COVID is a relatively short-term model. And the often-unstated hope is that zero-COVID is a necessary strategic step or even sacrifice for a better future outcome. The model at least provides some breathing room and a safe society largely free from COVID-19 despite the associated social costs. Probably many people expect that as time passes, effective vaccines will appear which will block the transmission of the virus, or like SARS nearly 20 years ago, the virus would mysteriously mutate into harmless variants. In other words, there will be a costless exit from zero-COVID, and the wait and pain will be worthwhile.

Some political economy of the zero-COVID model

The zero-COVID model, of course, was not just built on hopes. During the initial phase of the pandemic, the zero-COVID model probably gained relatively widespread support from different social classes. First, the capitalist class lost some of their mobility and connection with the global capital with the zero-COVID restrictions, but they were unlikely to have too much discontent as the death toll in the world was fast counting. Moreover, the zero-COVID model, when implemented effectively, created a large virus-free bubble within the Chinese mainland. This enabled uninterrupted production and boosted certain exports when world production was severely disrupted by the pandemic.⁴

The intellectuals and professionals were much divided on the policy issue. This is a privileged social class as many of them (but not all) could work remotely and did not have many economic losses from the restrictive policies. However, the more right-wing leaning intellectuals are often (neo) liberal-oriented, and they naturally disliked any loss of market mechanism, and they were clearly against the strict grid-based governance and restrictions on mobility (for example, see the editorial opinion of a leading liberal media, Caijing 2021). At the same time, the more left-leaning

⁴ China's exports increased by 30 percent between 2020 and 2021, based on the World Bank Databank, data.worldbank.org.

members are more receptive to economic planning and regulations and even argue for more progressive changes (Xu et al 2020).

Facing the unknown virus, the working class and the urban petty bourgeoisie were probably initially supportive of the zero-COVID policies. They are among the more vulnerable people in the market economy, especially so during a public health crisis. The safety offered by the zero-COVID model, and the free medical treatment under the model likely appealed to their interests. The lockdowns and restrictions certainly affect their work and income negatively, but such occasions were limited in the beginning. The social elites' treasured freedom of mobility among others was not much available to them anyway.

Finally, the bureaucrats are also a vital force in the zero-COVID model. The high-level cadres largely followed the central leadership (only later do different factions seem to emerge), but the local cadres lived in a somewhat different situation. In the grid-based local governance, many of the government employees undertook a tremendous amount of work and pressure with only modest pay (for the work pressure of a typical local government employee, see Zhang 2022). In the beginning, there were occasional complaints, but this group was not explicitly against the zero-COVID model.

It is worth emphasizing that the broad-based support for the zero-COVID model was based on its effective implementation. One way to assess the effectiveness is by examining the broad impact of the zero-COVID model on the Chinese economy. It may be hard to gather specific information on how specific COVID policies affect the production and consumption activities at the local level. The intuition is that a region will have to go through more disruptions of normal activities if there

are more verified COVID cases (thus more potentially contagious cases). Effective zero-COVID policies would reduce the frequency of virus outbreaks and minimize the relationship between COVID cases and local economic activities. Based on this idea, Figure 4 and Figure 5 present the scatter plots of GDP growth and log value of confirmed COVID cases per billion people in each province/region in China. They clearly show that in 2020 and 2021, the Chinese economy was largely intact, and the virus was well under control. In other words, the zero-COVID model was working effectively, which in turn reinforced the popular support of the model.

Interestingly, the zero-COVID model involved much deeper implications for China's political economy. Partly, this was related to the Chinese leadership's assessment of the global political economy: "the East is rising, and the West is declining" (for example, see Buckley 2023). The stark contrast between a virus-free China and the millions of deaths in the West provided much confidence to many that China might be creating a unique Chinese path out of the pre-COVID difficulties, and the zero-COVID model is an important (if temporary) part of the package.

The Chinese leadership at the same time started making gestures towards more egalitarianism. The Chinese government during the pandemic published a new guideline for China's long-term development: the dual circulation strategy. In essence, it calls for increasing domestic demand (as the internal circulation), and possibly some moderate pro-labor reforms so that the working class could contribute more to domestic consumption. Keep in mind that such a mildly egalitarian gesture is not uncommon in Chinese politics, but to a certain extent, this was more than rhetoric. There was a visible change in attitudes towards at least certain sections of private capital. For example, the central government unexpectedly carried out regulations on the education industry. The new policies require all service providers in the education industry to become non-profit

organizations, encourage public schools to expand their afterschool programs, and strictly limit the scope of education-related business (see the guidelines from the central government in Xinhua 2021). This almost eliminated the whole after-school education industry. Around the same time, the central government also targeted China's most famous capitalist Jack Ma and his business empire met serious regulations (Calhoun 2021). Ma then started his exile abroad and did not resurface in public until after the end of the zero-COVID model.

Along with these measures, China also tried vaccinating the entire population. The pace of vaccination was remarkable. As Figure 6 shows, although China started the campaign later than the US, it quickly surpassed the US level and reached about 2.5 vaccination doses per person towards the end of the zero-COVID period. This sparked new hope for a possible exit strategy that most people anticipated. But it did not take long before people realized that neither the Western mRNA vaccines nor the traditional vaccines developed in China would stop the pandemic although they can both reduce the chance of severe cases. This added great uncertainty to the previous hope. Soon, a much more contagious variant of the virus, Omicron, started to dominate the world and disrupt the zero-COVID model.

The ending of the zero-COVID model

Around the end of 2021, more than a year after the start of the pandemic and with uneven levels of vaccinations, many countries started gradually loosening exiting COVID regulations. For instance, the US started allowing fully vaccinated international travelers to enter from November 8, 2021. Meanwhile, the Omicron variant emerged and very quickly became the dominant variant in the world.

The conversations on exiting the zero-COVID model re-started in China in this context. The Chinese government only cautiously relaxed some restrictions regarding international travel, for example, allowing less restrictive measures for asymptomatic patients and reducing the quarantine time for international travelers from 21 days or even more (14 days in quarantine hospitals and at least 7 days at home) to 10 days (The Chinese State Council 2022a).

Such policy adjustments were well received, and it suggested that the state was already seriously deliberating options of gradually transitioning away from the zero-COVID model. However, such gradualist trials soon met challenges. Shortly after the modest policy changes, the new Omicron variant entered Shanghai and quickly spread despite the still strict COVID policies.

Shanghai, different from Wuhan, is the flagship of the Chinese economy and boasts its deep integration in the global trade and finance networks. In 2022, Shanghai had more than 26 million people and contributed about 4 percent of the Chinese GDP.⁵ Shanghai gained fame during the pandemic due to its soft approach to COVID and it managed to contain the virus without much disturbance to everyday life. In January 2022, for example, with one new wave of infections, the

⁵ Based on the Chinese National Bureau of Statistics, data.stats.gov.cn.

Shanghai government quickly trace and identify virus sources and closed only one tiny milk tea shop to put the virus under control (Yangshiwang 2022).

In the beginning, the Shanghai local medical experts and officials openly claimed that Shanghai shall never lock down because Shanghai does not just belong to Shanghai people, the city matters greatly to the national and global economy (Pengpai xinwen 2022). This expression was partly a manifestation of confidence in the public health system in one of the most developed cities in China, but it was also a recognition that if Shanghai could not deal with Omicron quickly enough, there would be severe consequences to the entire nation and the world economy.

The Omicron variant proved to be tougher to contain. Soon it was clear that despite the efforts and quarantines, the community spread of the virus requires more aggressive measures. The Shanghai government soon carried out waves of increasingly strict policies, and by the end of March 2022, Shanghai started its “static management”, another name for lockdown (Li 2022). There was widespread disappointment in Shanghai giving up its previous promises, and the local bureaucrats semi-openly disagreed with such policies. A recording of a Shanghai CDC expert’s phone conversation went viral online. Zhu Weiping, a local epidemiologist told the caller that COVID is not much unlike the flu, and the official policies are overreactions that simply caused confusion, stress, and exhaustion of medical resources. These were not new opinions, but the fact that hundreds of thousands of people shared them at that moment expressed the public sentiment toward the Shanghai lockdown. What is interesting is that the Chinese leadership tolerated such dissent from Shanghai, and there were no targeted responses or disciplinary measures from the government. It is not unreasonable to infer that by this point, many high-level officials had an open mind about ending the zero-COVID measures. In fact, despite the failure of

Shanghai in containing the virus, Li Qiang, the leader of Shanghai was promoted to become the current prime minister later. This further suggests an emerging consensus among the policymakers as early as the beginning of 2022.

The Shanghai lockdown was unsuccessful in some important ways, especially compared to the Wuhan experience. For example, Shanghai did not seem to utilize economic planning and continued to rely on large private retailers and online shopping firms. The Shanghai government was keen on encouraging the so-called "market entities" (private businesses) to address the issue of goods distribution under lockdown (Zhou 2022). This approach turned out to cause much chaos and confusion and Shanghai's elites were much threatened by the experiences. Even one of the big capitalists, the so-called venture capital queen in China, asked for milk and bread on social media (Kuang 2022). It was clear that the Chinese capitalists and many professionals started to shift positions during this lockdown. And foreign businesses also signaled their opinion against the zero-COVID model (Kine 2022).

China never fully restored the momentum of the zero-COVID model after the Shanghai lockdown. As the Omicron variant further spread in the nation, what happened in and after the Shanghai lockdown can be called a "bureaucrats strike". Facing a much more contagious variant, the zero-COVID model essentially requires much more effort from the local cadres. Theoretically, if the local cadres move quickly enough and attend to every detail, the zero-COVID model might still work without causing too much disruption to the economy and society. However, the already burdened local cadres chose not to do this. Instead, they often opted for much more frequent PCR tests for the entire local population.

It was in this period that China entered the nationwide PCR era. Previously in the zero-COVID model, PCR testing was frequently utilized, but in this new era, the requirement for PCR testing became much more intense. Even without a major virus breakout, the residents of any region needed to do one PCR test every 72 hours, sometimes even 24 hours, to be able to enter buildings or take public transportation. The government set up numerous PCR testing sites so that everyone had access to one testing site within 15 minutes of walking distance. According to one estimate quoted in the Wall Street Journal in May 2022, a nationwide 48-hour testing system would cost the equivalent of between 0.9% and 2.3% of Chinese GDP, while China's entire health budget was 7.1% of GDP in 2020 (Qi and Khan, 2022).

This nationwide and frequent PCR greatly disrupted the normal operation of society. In 2020 and 2021, only very few places in China had to go through such drastic measures, but in 2022, this became the new normal. The Chinese central government was very much aware of the worrying trend of normalizing PCR testing nationwide. The central leadership repeatedly warned against overreaction after the rise of nationwide PCR. For example, in a press release in early June 2022, central government officials explicitly opposed "mindless" massive PCR testing (The Chinese State Council 2022b). Shortly after, the central government also issued the "nine don'ts" which is clearly against unnecessarily intensifying the zero-COVID measures (The Chinese State Council 2022c). Despite such warnings and the damaging consequences of the massive PCR testing policies, the Chinese bureaucrats continued their strike on de facto terms and continue to push for more intense and frequent PCR testing nationwide.

At the same time, the capitalist class seemed to be losing their confidence in the zero-COVID model following the Shanghai lockdown and the nationwide massive PCR testing. Terry Gou, the

owner of Foxconn, the main producer for Apple and an employer of hundreds of thousands of workers in China, reportedly wrote a personal letter to the Chinese leadership. In the letter, Gou “warned that strict COVID controls would threaten China’s central position in global supply chains and demanded more transparency into restrictions on the company’s workers” (Zhai and Jie 2022). Indeed, the zero-COVID model became a problem for capital accumulation and growth in 2022. Following Figures 4 and 5, Figure 7 shows the relationship between GDP growth and the log value of confirmed COVID cases per million people in 2022. Different from the previous years, the more COVID cases a province had, the slower the economy grew. Similarly, Figure 8 suggests that there seemed to be a negative relationship in 2022 between fixed assets investment growth and COVID cases. All the evidence suggests that the once effective zero-COVID model eventually became a problem for capital accumulation and growth.

On the other hand, the Chinese workers had their own collective actions, but their focus was safety and effective COVID control measures in their workplace. In a widely reported unrest in Foxconn Zhengzhou with 200 thousand workers, the lack of COVID control and the chaotic management of quarantine led to massive complaints and a huge number of workers fled the enclosed factory. The capitalists tried to hire new workers with high compensation but failed to fulfill the promises. Like the fleeing workers, the new workers were also angry at the company's prioritizing profit over workers' health (Lee and Goh 2022). The workers' struggles forced Foxconn to apologize and paid certain compensations to the workers. The labor activism, although not against zero-COVID policies, added to the economic challenges to the overall zero-COVID model.

There is much discontent on the social level as well, especially among the urban petty bourgeoisie. At least part of the complaints arose from the frequent disruptions of normal life and business and often long periods of lockdown during the nationwide PCR era (Cheng 2022). And there were social tragedies associated with the zero-COVID model. For example, in November 2022, a fire broke out in a building in Ürümqi under strict COVID measures and ten people died. Even though the tragic deaths were not necessarily due to the zero-COVID model itself, local people and many others in the nation perceived it as a consequence of strict COVID policies (FitzGerald and Williams 2022). This became the trigger of later social protests scattered in different cities in China.

Finally, on the national leadership level, there already emerged the consensus of ending zero-COVID as we saw in the case of Shanghai. Since the CPC had its 20th congress in October 2022 when major elections took place, it would make sense for the leaders to minimize risks regarding COVID before the meetings. However, it was probably not a secret among the top circles that policymakers are already drafting some plans for ending the zero-COVID model. We can have a rough idea about this by following the public statements of outspoken top government experts. As early as March 2022, Zeng Guang, a leading scientist at the Chinese CDC already signaled that the zero-COVID policies cannot “remain unchanged forever” (WION 2022). And in early November, it was Zeng Guang himself who told a group of finance elites that China will make substantial changes to COVID policies soon, which later proved to be true (Reuters 2022). After the CPC’s 20th Congress, and amid the increasing challenges from different social classes to the zero-COVID model, it was just a matter of weeks when the central government started to abolish

some of the signature COVID policies such as regular PCRs and health certificates. The zero-COVID model then quickly ended in China.

It is worth pointing out that, rather than trying to mitigate the impact of the virus following the ending of zero-COVID, the Chinese leadership quickly abandoned almost all COVID control measures. Typical pandemic plans include “containment”, “mitigation” and “recovery”, and “the abrupt relaxation of control measures in the Chinese mainland seems more akin to an immediate jump from a containment phase to a recovery phase” (Cowling 2023). This policy choice was not based on public health principles, rather it served business interests. Without mitigation and faster spread of the virus, the whole population will reach peak infection in a relatively short time and perhaps the market economy will resume shortly after most people recover from the disease (that is if they survive). In logic, this is not so different from shock therapy. Such business-based consideration is clear from the not-so-subtle speech of Liu He, China’s top economic official. At the World Economic Forum in January 2023, shortly after China gave up the zero-COVID model, Liu He said in a rather positive tone that China was back to normal, and “[T]he speed of reaching the peak and speed of recovering normality were relatively fast, in a way exceeding our expectations” (Yang 2023).

Concluding remarks

There are different estimates regarding the death toll after China’s retreat from its zero-COVID model but given the large population and the fast spread of the virus in such a short period, the human cost was likely quite large. A New York Times report suggests that “[T]wo months after

China ended “zero-COVID,” rough estimates suggest that between 1 and 1.5 million people died — far more than the official count” (Glanz, Hvistendahl, and Chang 2023). Considering the large population base in China, the casualties were not as bad as many other countries including the US and India, but it was still a high price after years of struggles and sacrifices of the Chinese people.

Now China seems to be back to business as usual, and the three years with the zero-COVID model became just a long detour. Liu He’s speech at the World Economic Forum also suggests that the conservative forces have again gained an upper hand, as he reportedly emphasized that “[S]ome people say that China is pursuing a planned economy, but this is fundamentally impossible: Chinese people will not walk this path” (Yang 2023).

The popular narratives tend to explain the end of the zero-COVID model as a result of urban middle-class protests, political factional struggles, and/or the efforts of the Chinese elites to save the Chinese economy. Critical of these approaches, this research suggests that the development of the zero-COVID model and its ending were part of the larger changes in the Chinese political economy. Different social classes in their own ways contributed to the rise of the zero-COVID model and eventually the end of it. What is clear, though, is that the Chinese elites have refuted the very limited attempt in building an alternative model during the pandemic. Moving out of the zero-COVID model, China is removing the previous regulations, embracing austerity, and encouraging private business. However, such an approach is unlikely to work. As this paper mentioned in the beginning, China was already in an economic downturn even before the pandemic, so we cannot blame the zero-COVID measures for crisis tendencies inherent in the market economy.

Regardless of its economic prospects, public health, it seems, again takes a back seat in today's China. In the past twenty years, we already saw two public health crises originate in China. As the market forces further expand and encroach on the territories of wildlife, it would be quite possible that we will see more outbreaks of deadly viruses. Meanwhile, the defeat of the zero-COVID model and inconsistency in official policies might have some long-lasting damage to people's trust in public policies. These factors may severely limit China's policy options with the next public health crisis.

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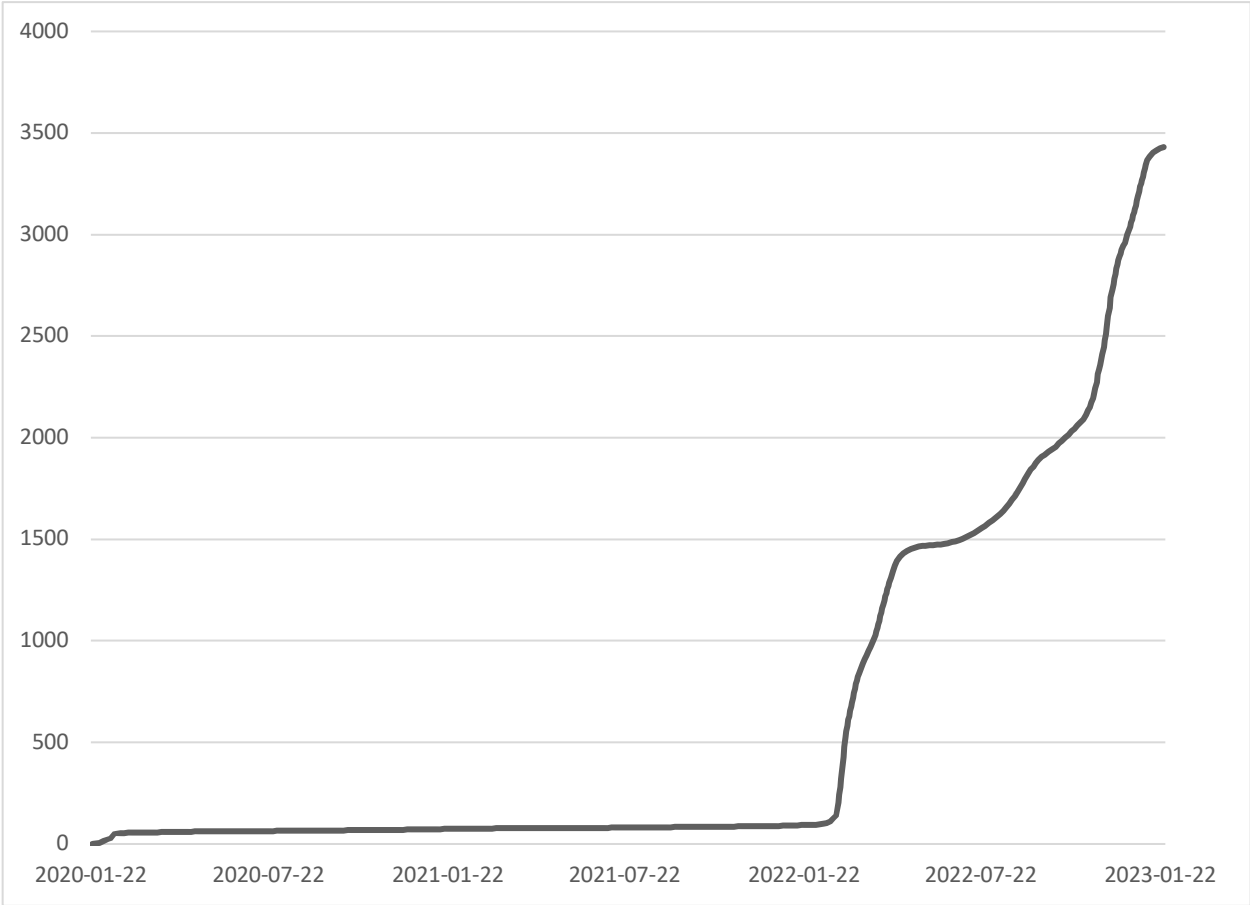
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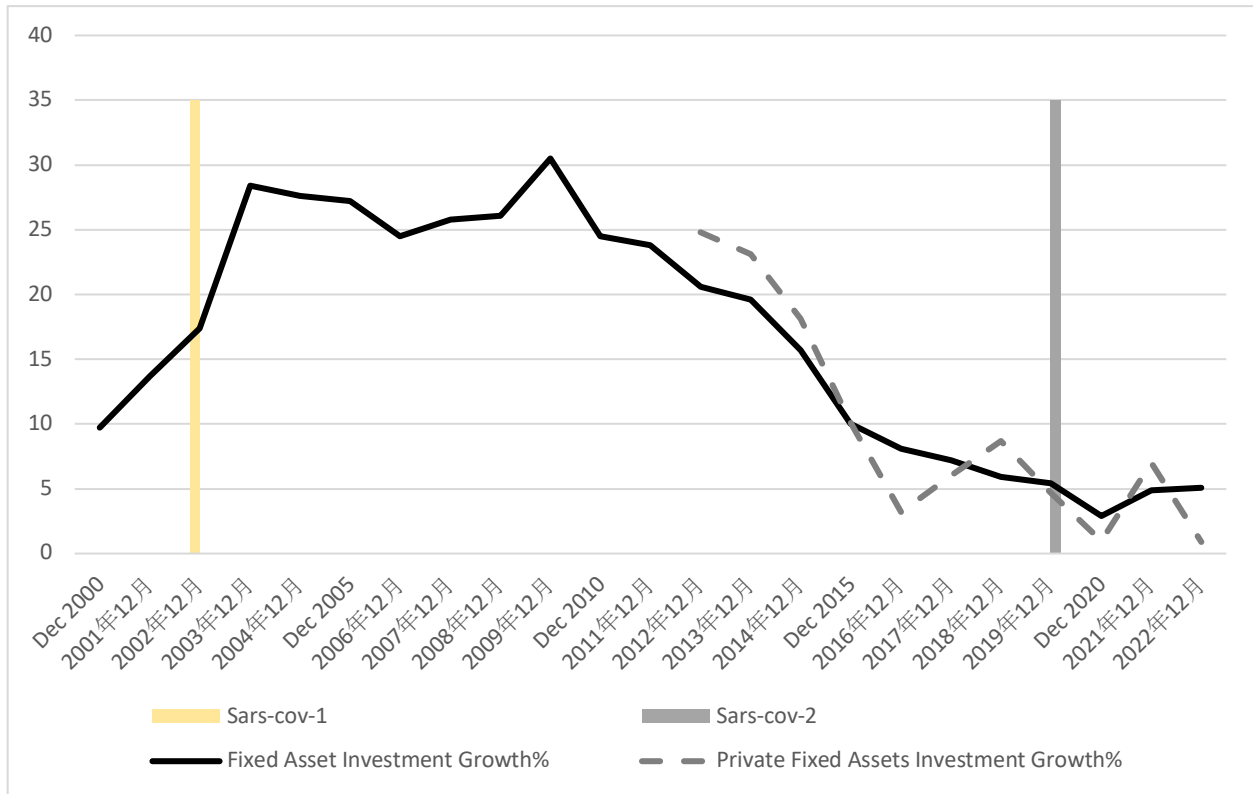
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Figure 1 Confirmed cumulated COVID cases per million in mainland China



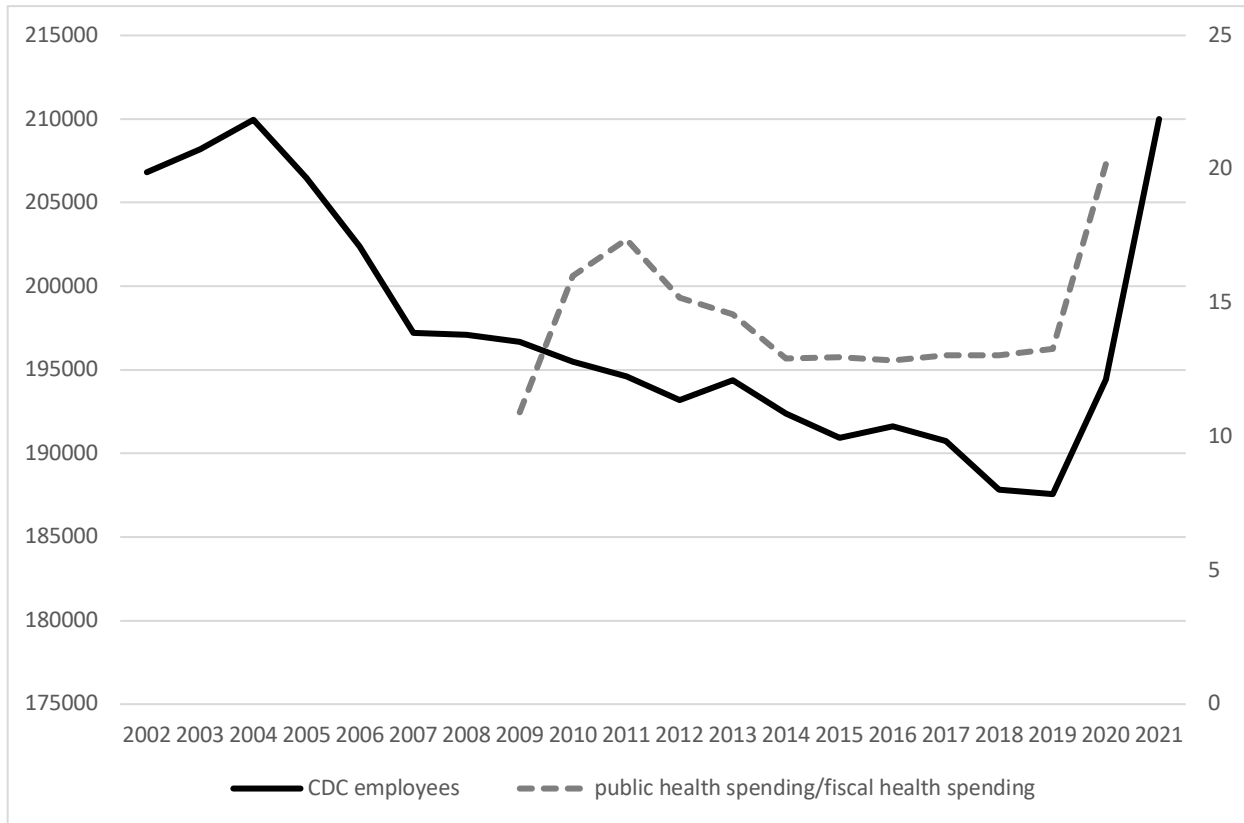
Data sources: COVID-19 World Statistics, covid.observer. Here the mainland data are obtained by subtracting Hong Kong’s infected cases from all China data.

Figure 2 From Sar-Cov-1 to Sars-Cov-2



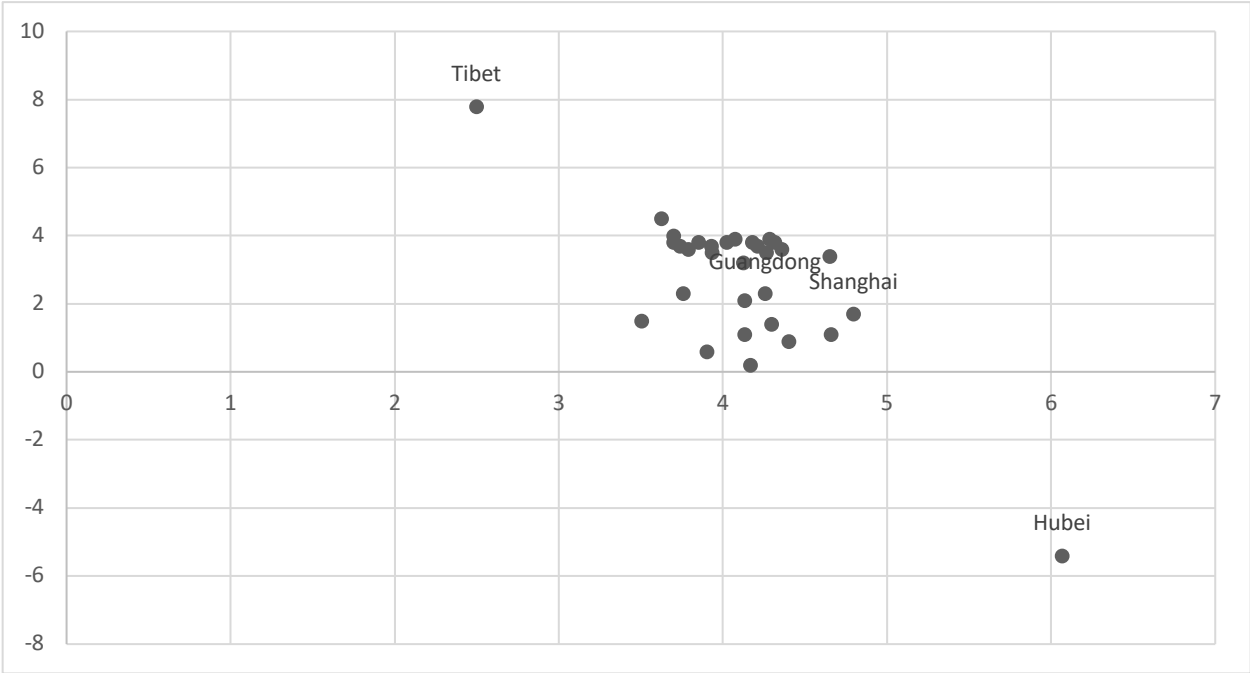
Data Sources: The Chinese National Bureau of Statistics, data.stats.gov.cn.

Figure 3 Public health spending in China



Data Sources: Yearbook of Health in China, various years.

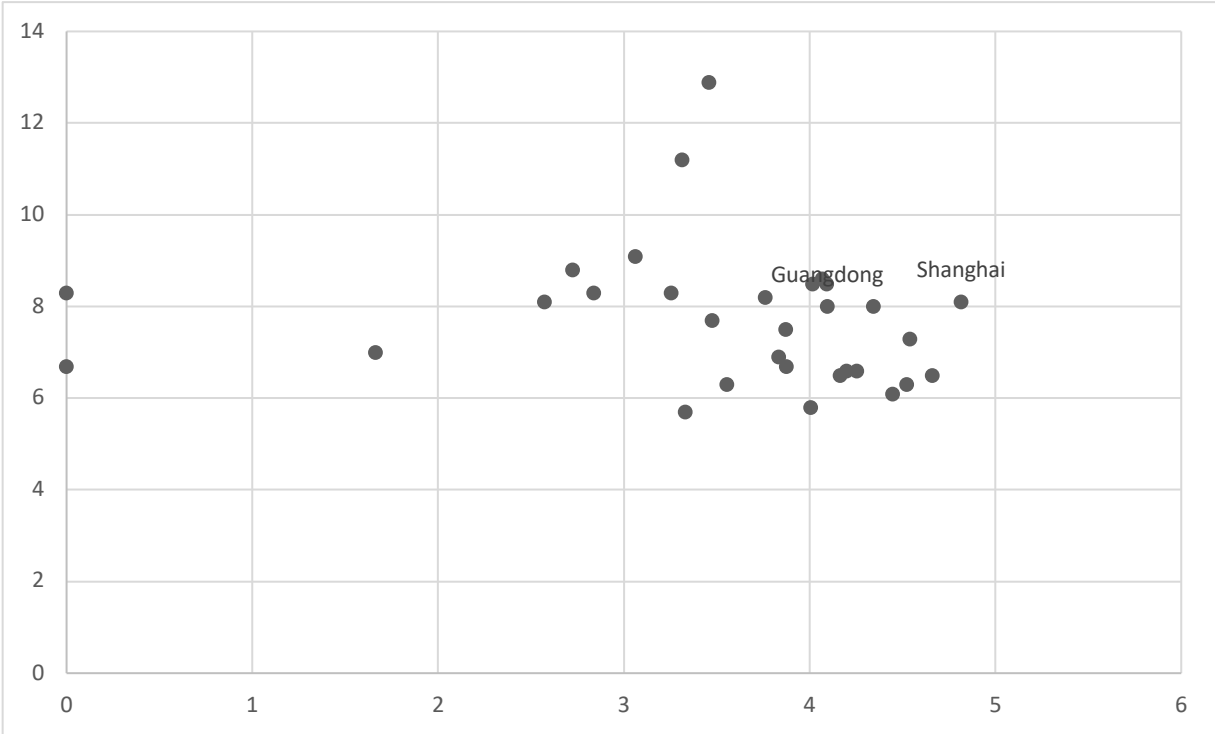
Figure 4 GDP growth and COVID restrictions (2020)



Data Sources: GDP growth data are from the Chinese National Bureau of Statistics, data.stats.gov.cn; the COVID cases data are from COVID-19 World Statistics, covid.observer.

Notes: Horizontal axis is the COVID cases, measured as the log value of the number of newly confirmed cases per billion people during 2020. The vertical axis is the GDP growth rate for each province/region in 2020.

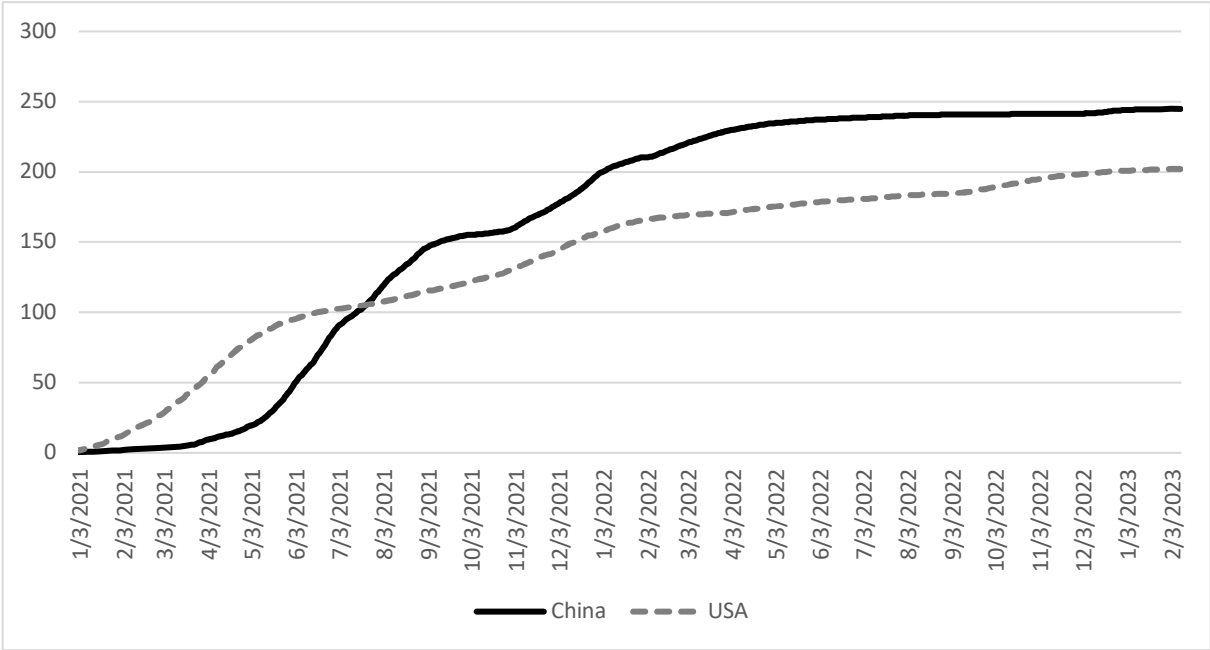
Figure 5 GDP growth and COVID restrictions (2021)



Data Sources: GDP growth data are from the Chinese National Bureau of Statistics, data.stats.gov.cn; the COVID cases data are from COVID-19 World Statistics, covid.observer.

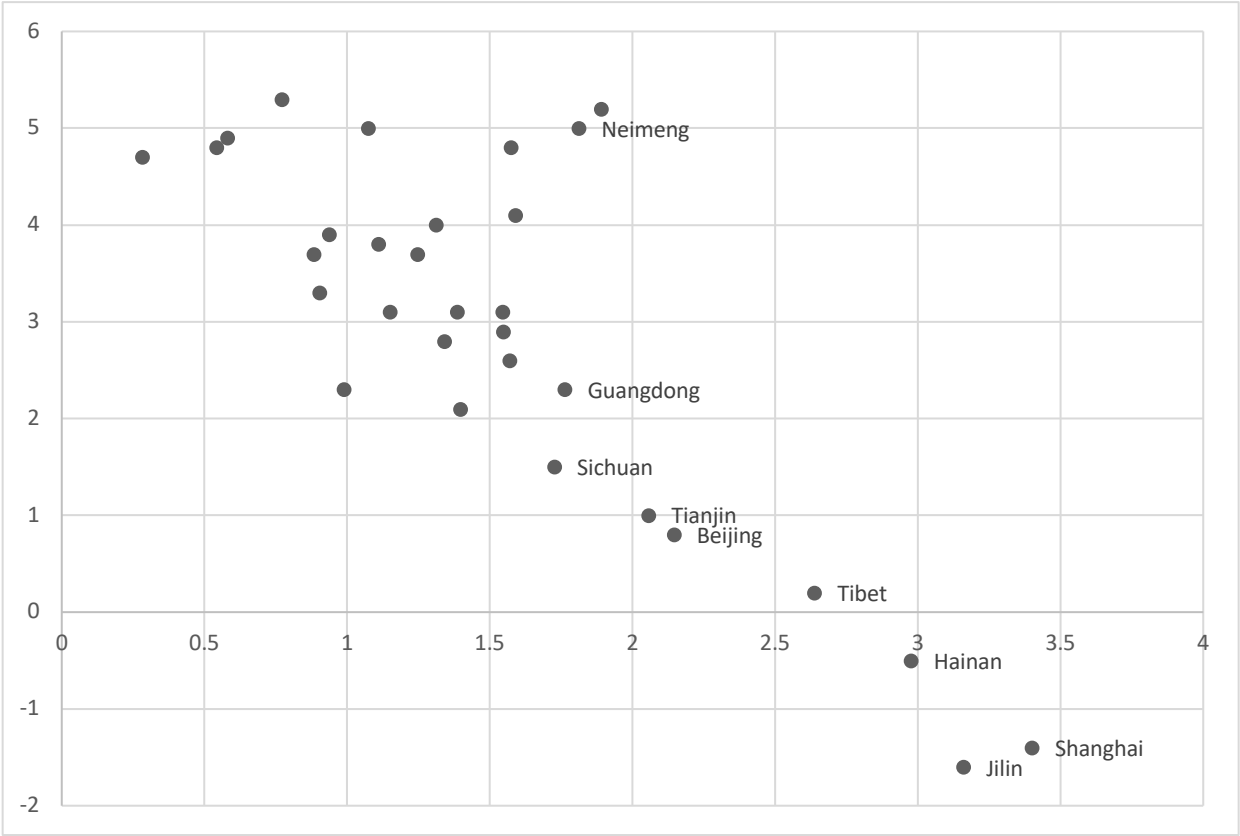
Notes: Horizontal axis is the COVID cases, measured as the log value of the number of newly confirmed cases per billion people during 2021. The vertical axis is the GDP growth rate for each province/region in 2021.

Figure 6 Total vaccination doses per 100 people



Data sources: COVID-19 World Statistics, covid.observer.

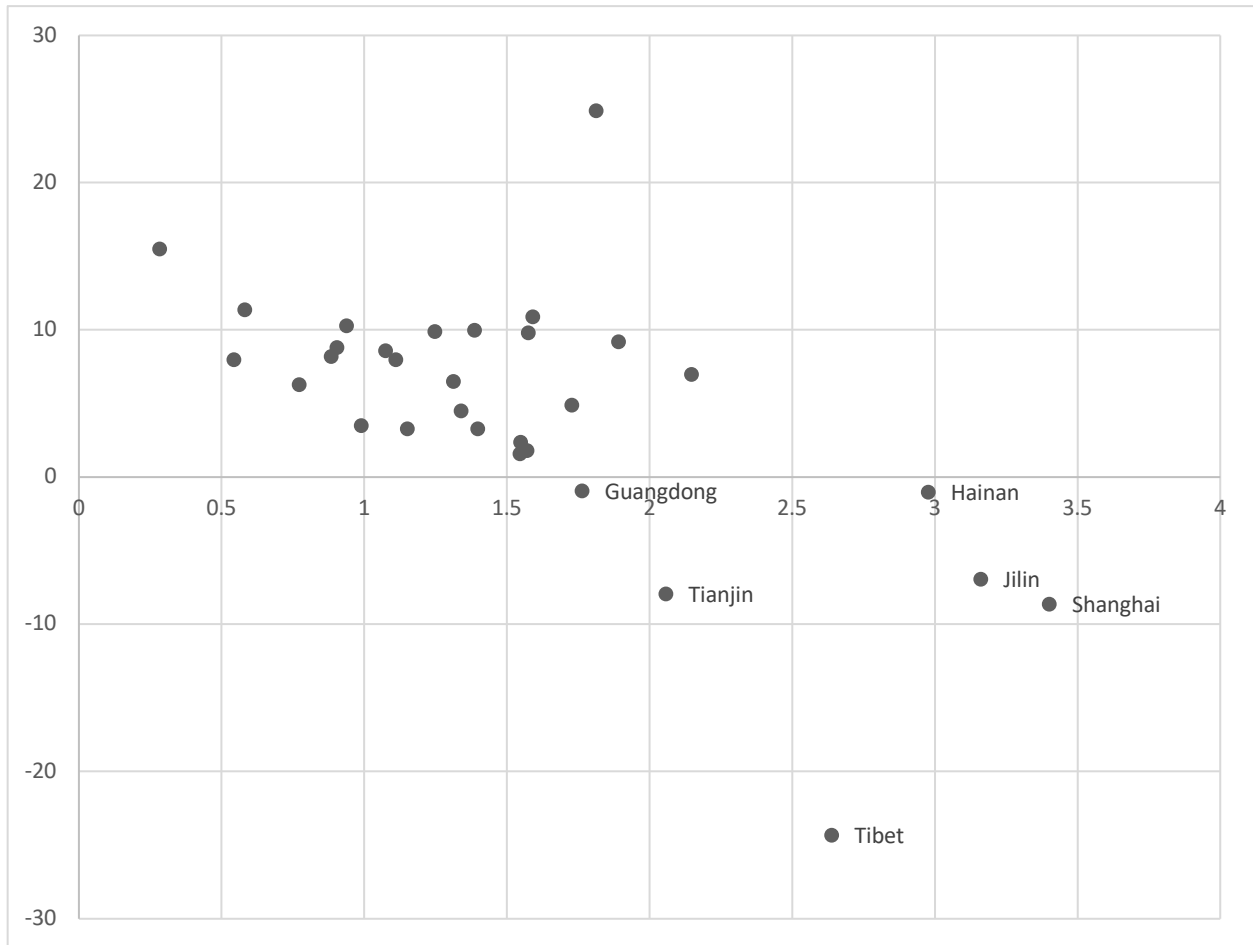
Figure 7 GDP growth and COVID restrictions (Jan 2022-Sep 2022)



Data Sources: GDP growth data are from the Chinese National Bureau of Statistics, data.stats.gov.cn; the COVID cases data are from COVID-19 World Statistics, covid.observer.

Notes: Horizontal axis is the COVID cases, measured as the log value of the number of newly confirmed cases per million people in the first three quarters of 2022. The vertical axis is the GDP growth rate for each province/region in the first three quarters of 2022.

Figure 8 Fixed asset investment growth and COVID (Jan 2022-Sep 2022)



Data Sources: Fixed assets investment data are from the Chinese National Bureau of Statistics, data.stats.gov.cn; the COVID cases data are from COVID-19 World Statistics, covid.observer.

Notes: Horizontal axis is the COVID cases, measured as the log value of the number of newly confirmed cases per million people in the first three quarters of 2022. The vertical axis is the growth rate of fixed assets investment for each province/region in the first three quarters of 2022.