

From Boom to Bust: A Study of China's Economy in the Wake of COVID-19 Outbreak in H1 2020

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Abstract

The purpose of this study is to examine the impact of the COVID-19 pandemic on China in terms of both health and economic crises and to provide an in-depth analysis of the government's economic policies in response to the crisis. To achieve this, the study analyzes data on the spread and progression of the COVID-19 pandemic in China and the data on the Chinese economy and government initiatives to stimulate economic growth. The study draws on relevant literature to contextualize the effects of past crises on the global economy. The study found that the COVID-19 pandemic had a significant impact on the Chinese economy, resulting in the first annual decline in growth since 1976. The government's response to the crisis focused on job security rather than economic growth. The study also revealed that the government implemented various measures to stimulate the economy, such as tax relief, loans to small and medium-sized enterprises, and investments in infrastructure projects. The study provides insight into the effectiveness of the government's economic policies in response to the crisis and offers important scientific findings on the impact of the COVID-19 pandemic on China's economy and public health. The study highlights the challenges faced by China in responding to the crisis and provides valuable lessons for other countries. The study's contribution lies in its thorough analysis of the Chinese case and its potential to serve as a model for other economies in the post-pandemic era.

Keywords

COVID-19; China; health crisis; economic crisis; economic policies; economic growth; global economy

JEL: I1, O1, E6, F4.

1. Introduction

When compared to other severe crises that have happened in recent decades, such as the dotcom crisis at the turn of the 21st century or the financial crisis of 2008, the COVID-19 epidemic has become the worst negative shock to the global economy since the Great Depression of 1929 (Brio, 2020). As of March 10, 2020, 115 countries had been infected with the COVID-19 virus that got its start in China at the end of 2019 (Khafaie & Rahim, 2020).

So far, China has been the only nation to have both experienced and successfully contained a COVID-19 outbreak (Yang et al., 2020). This country's experience in dealing with the spread of the epidemic is therefore an important case study for the international community as a whole. As China is one of the world's leading economies, contributing 19.2% to global GDP and 12.4% to global commerce, the effects and progression of any crisis suffered by the country directly affects the evolution of the worldwide economy (Liu et al., 2020). The number of COVID-19 cases in China is reported to have increased starting from 2022; it is said, however, that in early December of that year, Beijing suddenly lifted its stringent three-year anti-virus measures, including frequent testing and travel restrictions (see fig. 1). The World Health Organization suggested that China had been significantly under-reporting COVID-19 deaths, although recently it has provided more information on the outbreak.

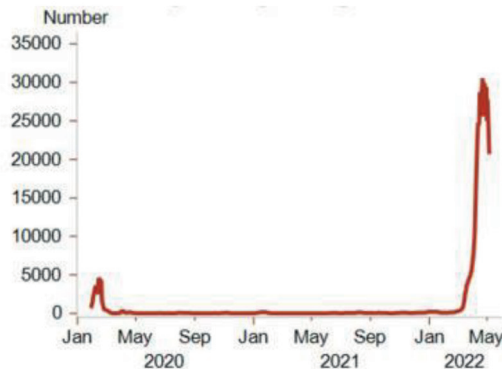


Figure 1. China, Daily new confirmed cases of COVID-19. *Source:* Our World in Data

One economic theory that can be applied to the Chinese government's policies during the COVID-19 epidemic is Keynesian economics, which suggests that during times of economic crisis governments should increase spending to stimulate economic activity and reduce unemployment. The Chinese government adopted this approach by implementing various stimulus measures, such as tax cuts, subsidies, and infrastructure spending. Another economic theory that could be applied is the theory of comparative advantage, according to which countries should focus on producing those goods and services that they are relatively more efficient at producing. The Chinese government shifted its focus towards domestic consumption, indicating that they were attempting to move away from being overly reliant on exports.

One political science theory that could be applied to the Chinese government's policies during the COVID-19 epidemic is institutional theory. This theory suggests that institutions shape the behavior of actors, and in turn, the outcomes of political and economic processes. In the case of China, the government's institutional framework allowed for quick and decisive action during the early stages of the epidemic. Additionally, the government's ability to implement and enforce strict lockdowns and travel restrictions was made possible due to the existence of the necessary institutional framework.

A sociological theory that could be applied to the Chinese government's policies during the COVID-19 epidemic is the theory of social capital. This theory suggests that social networks and relationships can influence access to resources, information, and opportunities. In China, the government's ability to effectively respond to the epidemic was partly due to the country's high level of social capital, with strong community ties and a culture of social responsibility. The government also encouraged domestic consumption laying the emphasis on social harmony, with a focus on reducing income inequality and promoting a more equal distribution of wealth.

This paper begins with a history of the COVID-19 pandemic in China. It then turns its attention to the economic effects, drawing distinctions between the initial shock and the evolution experienced by the Chinese economy in the months that followed. The Chinese government's many economic policies are discussed in detail. Finally, it predicts possible developments in the Chinese economy.

2. Literature Review

Many researches have addressed this pandemic; one such study, (Dhar 2020), investigated COVID-19's potential effects on China's economy, discovering that COVID-19 had an impact on its GDP, trade balance, and stock market. The spread of COVID-19 had hampered Chinese exports and imports. Both exports and imports fell, with the former falling as much as 17.5% and the latter falling by 4%. Stock markets, including the SSECI, fell by as much as 36 points because of concerns over the COVID-19 pandemic. Policies of social separation and isolation caused reductions in manufacturing and commercial operations. Since the COVID-19 virus spread, China's economy has reached the goal it had set for itself.

The effects of COVID-19 on the Chinese economy were studied by Liu and Hu (2020) who used the neoclassical growth model in their analysis. The study concluded that the global expansion of COVID had adversely affected the Chinese goods market, but the outbreak had no effect on the local demand in China. China's social isolation measures led to a precipitous drop in output. In order to prevent the spread of COVID-19, the World Health Organization advised closing borders around the world. As a result, the study was unable to assess COVID-19's ultimate impact on China's economy. The global proliferation of COVID-19 led to a rise in China's savings rate, which might be put to use in the country's economy.

The OECD (Yang and Deng 2021) looked at how COVID-19 affected economies around the world, including China. This analysis, which employed the NIGEM macro model, found that the negative consequences of the pandemic might be lessened by the application of exogenous fiscal policy. More expenditure, subsidies, and lower taxes benefited countries hit by COVID-19 even in the worst-case scenario. The survey found that Chinese demand dropped by 4-6%. In 2020, commodity prices dropped by 10% worldwide, while global GDP dropped by 0.5%. China's GDP decreased 0.2% and imports fell 6.0% as a result of the global spread of COVID-19.

This study indicated that the outbreak of COVID-19 impacted production, business, and households' living standards (Wei et al. 2021). Considering the importance of industry to a country's economy, it is tragic that so many factories were forced to close due to the spread of COVID-19. Credit, costs, and employees are all more challenging to manage for companies in this environment.

In their research on the Chinese economy, Luo et al. (2020) discovered a number of COVID-19-related effects. The virus, known as COVID-19, first appeared in China but has since spread over the world at a rapid rate due to globalization. This research indicates that China's practices of social isolation and separation contributed to slowing the spread of COVID-19 but had a negative impact on the country's economic growth. Both Chinese and global economies were impacted by China's falling output and border closures. The study had predicted a 3% drop in global GDP by 2020, with a loss of 4-7% in developing countries. The author used charts and graphs to analyze changes in China's GDP and other economic indicators.

The implications of COVID-19 for China's economy were analyzed by Wang and Su (2020). The author hypothesized that COVID-19 emerged in January 2020, prompting high-risk municipalities to close. Although no new cases of COVID-19 were reported in March, the study looked into possible transmission routes within China. According to its results, the COVID-19 epidemic caused a decrease in consumption. The shutdown policies also had negative effects on other areas of the economy, including manufacturing, transportation, tourism, and academics. Furthermore, investment was dampened by the shutdown and isolation policies, thus curbing GDP expansion. The restrictions imposed by the WHO led to a decrease in both exports and imports, the author noted.

Although the effects of COVID-19 could be felt across the board, the authors of this study (Zhang et al., 2020) isolated the agricultural sector in China as their primary area of analysis, exploring the effect of COVID-19 on broad economic metrics. The authors found a lot of information via SAM multiplier analysis. The research showed that agricultural output in China declined by RMB 0.26 trillion, or 6.8%, in the first quarter of 2020, which resulted in a loss of 27% of agricultural jobs and a loss of agricultural value added of 7%. The target for 2020 was 1.1% growth rate, but the agricultural sector only managed a 0.4% increase. The authors claimed that the decline in international demand for Chinese agricultural products had a negative impact on the sector.

Lin and Zhang looked into the relationship between COVID-19 and China's agricultural exports (2020). The spread of COVID-19 hampered China's ability to export

agricultural goods around the globe. The province of Fujian in China was chosen for its abundance of agricultural resources. Some important findings were uncovered by doing regression analysis in this investigation. Agricultural exports were falling with the spread of COVID-19, and they fell further after borders were blocked. There was an inverse relationship between the volume of medical herb exports and the spread of the COVID-19 pandemic.

COVID-19 also wreaked havoc on edible fungi, crops, oil seeds, and cooking oils. It revealed the inability of workers to relocate to other industries during the transportation shutdown. The authors advocate for government support and subsidies for the industry.

In their 2020 paper, Lu et al. showed that Chinese industrial growth slowed, GDP dropped, exports and imports shrank, and only unemployment rose in China as a result of the COVID-19 pandemic. The authors analyzed financial aid, social insurance, and other forms of social welfare in China, where people were provided with social security, medicare, pensions, and aid for the unemployed. During the COVID-19 pandemic, people could get specialized medical care, education, and legal representation. Also, the author mentioned that the government of China offered specialized services for children and the disabled.

China's economic situation and its participation in international trade make it a significant player in the global economy. Disruptions to the global trade balance can result from changes in China's banking or manufacturing sectors. The present COVID-19 crisis has had a devastating effect on the Chinese economy and sent ripples throughout the global economy. When COVID-19 hit, all manufacturing soon came to a halt. Regulations aimed at preserving social distance have contributed to underemployment and waste of resources in China. Closing international borders and imposing other limitations on transport made exports difficult for China, resulting in massive losses for the country with a drop of 3.7% in exports alone (Liu and Hu 2020).

The export patterns of the Chinese economy from 2017 through to December 2020 are shown in Figure 2. China's exports dropped dramatically in January 2019 during



Figure 2. Exports of China. *Source:* National Bureau of Statistics of China

the peak of the COVID-19 pandemic, as shown in the chart below. However, as time went on and measures were developed to combat COVID-19, China's exports began to recover. In 2020, exports reached a record high that would last until the next year.

During the height of the epidemic, the investment sector saw a dramatic fall, and a large portion of the auto industry's inventory has yet to be sold. Foreign direct investment, tourism, and business travel all dropped after the COVID-19 epidemic. Because COVID-19 has the ability to spread rapidly among humans, the Chinese government has closely adhered to the recommendation of isolating those infected (Wong et al. 2020). Measures were also taken to prevent the spread of the disease, such as the suspension of all forms of learning, commerce, and non-governmental organization activity at all levels of government and the worldwide community. Nonetheless, the essentials and life-saving supplies could be traded across borders. China had successfully implemented measures designed to limit the spread of the deadly COVID-19 virus (Liu et al. 2020).

Many earlier forms of pandemics and their associated high death tolls had plagued the earth before COVID-19 (Keogh-Brown et al. 2020). COVID-19 spread rapidly and eventually enveloped the entire planet. Many studies, including the one by Allen et al. (2008), have argued that the spread of disease was a natural consequence of expanding international trade and travel. Keogh-Brown et al. (2020) investigated the consequences of COVID-19, and they concluded that the ongoing pandemic was the deadliest and most destructive in history. Table 1 provides a comparison of COVID-19's mortality toll with those of earlier pandemics. The overall number of COVID-19 cases, the fatality rate, and the number of patients who made a full recovery had been used as measures of the pandemic's severity by many researchers (Alfani and Murphy 2017).

Table 1. Pandemic: a historical perspective

Pandemic Name	Number of Deaths	Time Duration
Black Death	75,000,000	1331 to 1351
Plague of Italy	281,000	1623 to 1632
Plague of Seville	2,000,000	1647 to 1652
London great Plague	100,000	1665 to 1666
Marseille Plague	110,000	1720 to 1722
Cholera	100,000	1816 to 1826
Cholera (2nd Pandemic)	100,000	1829 to 1851
Cholera in Russia	1,000,000	1852 to 1860
Flue Pandemic worldwide	1,000,000	1889 to 1890
Cholera (6th Pandemic)	800,000	1899 to 1923
Pandemic of Encephalitis Lethargica	1,500,000	1915 to 1926
Flu of Spanish	100,000,000	1918 to 1920
Asian Flue	2,000,000	1957 to 1958
H1N1 pandemic	205,000	2009 to 2010

Source: Plague and other lethal epidemics in the pre-industrial world.

Many studies, such as Chen et al. (2020) and Liu et al. (2020), investigate the effects of COVID-19 and the government's response to the pandemic. Several immediate measures were taken by the Chinese government in reaction to COVID-19, and this was only a short-term analysis. Domestic demand for commodities, such as food and clothing, fell as a result of the isolation and social distancing measures. Further, China's isolation and social distancing policies reduced demand for Chinese exports worldwide. For better understanding of the effects of COVID-19, we may break them down into several stages.

The first stage coincided with the spring, but consumption took a significant hit. Because of the closure of all malls, commodity consumption fell dramatically. The country's consumption level also plummeted as tourism, manufacturing, and retail industries were all scaled back. Several businesses in the hospitality industry went under, and 93 percent of catering firms shut their doors as a result of the slump in sales.

The second phase began after the spring festival, when workers were to return to their jobs despite being unable to do so because of the COVID-19 pandemic. Commodity production dropped as a result, and with fewer transit options it was now impossible to relocate workers. Industrial output thus suffered greatly as a result of social distance efforts. According to the statistics, over 50 million people in the labor force were unable to report to work because of isolation rules; hence, an increase in unemployment and a general decline in living conditions in China (Liu and Hu 2020).

The global expansion of COVID-19 marked the third phase, and consumer interest in goods made in China waned as a result. Both developed and developing countries strictly implemented the safeguarding procedures that the WHO recommended regarding isolation. Global policies of isolation and social distance thereby closed borders, having a devastating effect on China's international trade. The disastrous spread of COVID-19 in the United States and Europe made consumer demand for Chinese goods plummet (Shen et al. 2020).

There was a downward trend in China's macroeconomic data in the first months of 2020, including January and February, since which these metrics became available. One such number is a 13.5% drop in the value added by the industrial sector. Absolute retail sales of social consumer products dropped by 20.5%, and the services sector had a 13.0% drop-in activity. China spent a lot of money to cope with COVID-19.

From 2017 on, the growth trends of China's industrial production are shown in Figure 3. As can be seen in the graph, China's industrial output dropped dramatically in mid-2019 as a result of the global spread of COVID-19. Social estrangement and the closing of international boundaries were major factors that caused the drop in demand for Chinese goods. Then, as time went on and measures to combat COVID-19 were put in place, the country's manufacturing industry began to recover. The performance of the industrial sector reached its peak by the end of 2020.

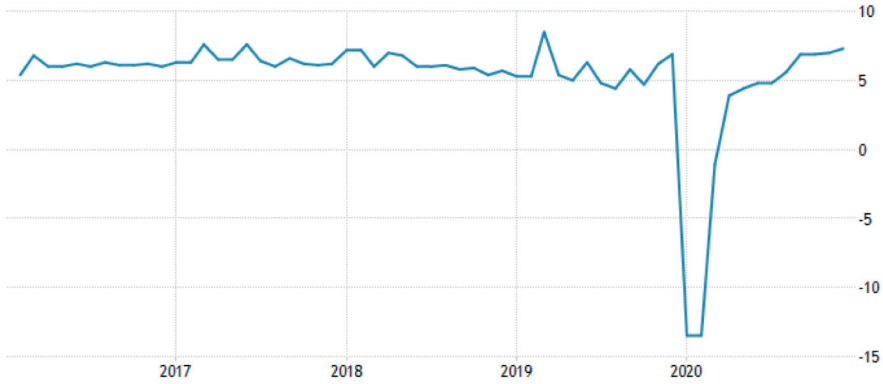


Figure 3. Industrial Production of China. *Source:* National Bureau of Statistics of China

Immediately following the COVID-19 outbreak, China forwarded a package of proposals. Citizens effectively donated money and supplies to ensure “hostile to plague,” and the Chinese government swiftly organized special reserves. At the same time, the Chinese government announced a number of approaches, such as financial arrangements, charge strategies, money-related arrangements, modern strategies, and commercial strategies. For monetary context, “Anti Epidemic Thematic Bond” was interpreted as a mix of duty reduction, expense reduction, and endowments. Transportation, catering, travel, convenience, accelerated service, standard avionics, and other industries that have been affected by the pandemic received special consideration from the government. According to key indicators, in 2020, the global population’s spending gap could have widened from 2.8% of GDP in 2019 to around 3% in 2020.

Trends in China’s nominal fixed investment are examined in Figure 4 for the years 2019 and 2020. Data demonstrates that as the number of cases of COVID-19 increased,

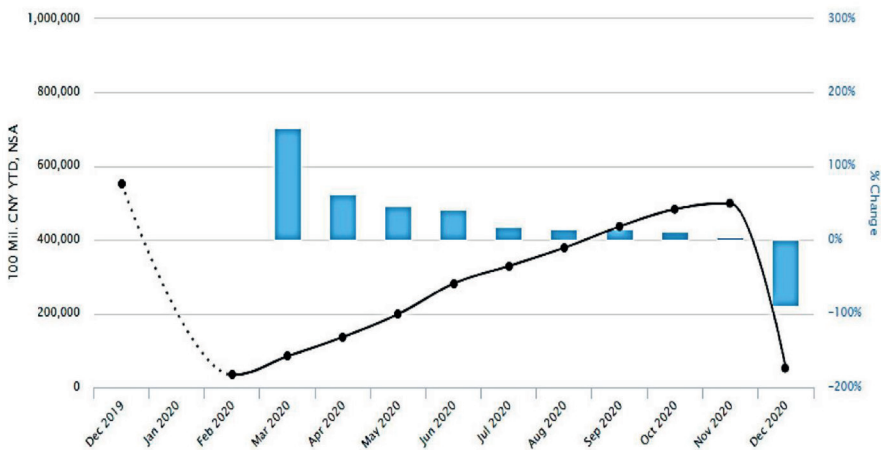


Figure 4. Nominal Fixed Investments. *Source:* National Bureau of Statistics of China

investment in China dropped significantly. Once some time passed, and countermeasures were developed against COVID-19, Chinese investments benefited. As of the end of 2020, its growth rate was negative, and COVID-19's was likewise low.

As concerns funding, it was maintained at an adequate level. The People's Bank of China (POBC) ensured sufficient liquidity without increases in financing costs for the real economy through policies like expanding its balance sheet, reducing its reserve requirement ratio (RRR), and lowering the cost of its strategy loans. At the same time, the PBOC concentrated on RRR-slicing to aid in the development of full-scale social finance notwithstanding the state of obstructed external interest and the level of foreign trade. A "new framework" could simplify the improvement strategy. As of March 1, 2020, thirteen jurisdictions, including Beijing, had submitted business plans for urgent actions in 2020 with a total budget of up to 33.8 trillion Yuan, all in an effort to counteract the consequences of COVID-19. Of these, "new foundation" was the most eagerly awaited. As opposed to traditional infrastructure like a railroad, parkway, or airport, the "new framework" focused on seven main areas: "5G foundation," "UHV" (ultra-high-frequency) radio waves, "intercity rapid rail line and metropolitan rail travel," "new energy vehicle charging heaps," "huge server farms," "man-made consciousness," and "mechanical Internet" (Chen et al. 2020).

Trade surplus or deficit for China's GDP from 2017 through to the second quarter of 2020 is shown in Figure 5. In this figure we can see that the severity of the COVID-19 epidemic in 2019 had an adverse effect on China's trade balance. Then, time and development of measures against COVID-19 had a positive effect on China's trade balance. With a positive trade balance at year's end in 2020, it is clear that the effects of COVID-19 were mitigated.

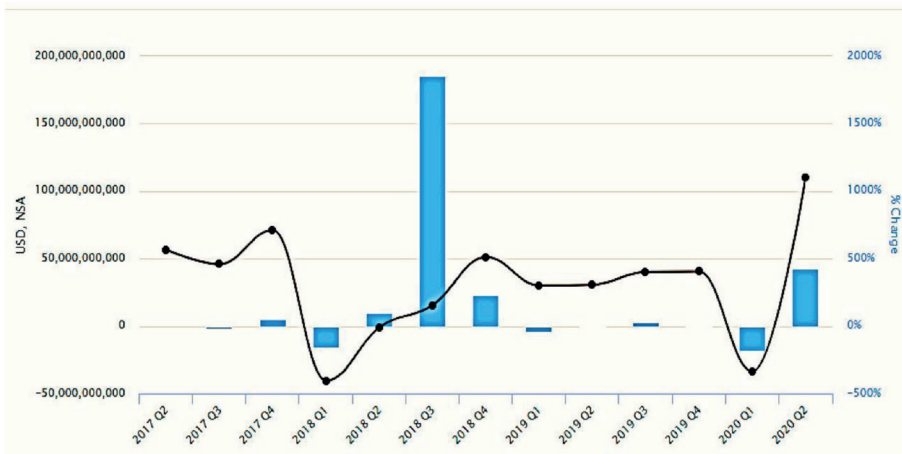


Figure 5. Current Account Balance. *Source:* National Bureau of Statistics of China

On the one hand, the public authority's expense and charge reduction arrangements improved businesses' strategy by easing their payment burdens. At the same time, the government was expanding commercial avenues. State-owned enterprise

enrollment plans, grass-roots business development (via initiatives like agribusiness, education, healthcare, and poverty alleviation), a larger business student body, “cloud” job fair organization, appropriate delay of recognition, and so on are all viable options. In the face of the devastating impacts of the plague, China has constantly used highly targeted and innovative methods in public health, finance, technology, and business and other areas. This study, in general, adopts the idea that the preceding quarter should represent the weakest section of the pandemic-affected economy. A “basic bounce back” is therefore expected to emerge. The Central Economic Work Conference’s established business and development goals that have a strong chance of being met on a consistent basis. Furthermore, it was anticipated that, globally, the more significant recovery of China’s economy should cause a rebound in the global economy (Zhao et al. 2020).

3. The Worsening COVID-19 Crisis in China

At the end of December 2019, the first COVID-19 cases were found in Wuhan, China. China did not inform the WHO about the severity of the situation until January 20, 2020 (Muniz-Rodriguez et al., 2020). In a marked departure from the SARS and MERS pandemics, the World Health Organization declared a pandemic on March 11, 2020, due to the staggering global spread of the disease (Nicola et al., 2020).

The 2020 Chinese New Year celebrations lasted from mid-January to the first week of February, coinciding with the peak of the COVID-19 outbreak in the country (Chen et al., 2020). As a result of the pandemic’s rapid spread across the country, the government had to order a phased return to cities and production hubs in order to limit the spread of the disease. In Beijing, this meant delaying the start of the work week until February 10. At the same time, strict national controls and prevention measures were implemented, such as the quarantining of cities (required in Hubei province, which is home to nearly 60 million people); the closure of stores, businesses, schools, offices, factories, and tourist attractions; the rise of home delivery services and the introduction of teleworking; and the taking of people’s temperatures in public areas (such as airports, subway stations, and shopping malls) (Wang et al., 2021).

The virus quickly spread throughout the city and surrounding areas, leading to widespread infections and fatalities. At the time, Chinese authorities faced criticism for their handling of the outbreak, with accusations of a lack of transparency and suppression of information. As the virus continued to spread, the Chinese government eventually implemented strict lockdowns and travel restrictions to contain the outbreak, which proved to be effective in reducing the number of new infections.

However, despite the initial success in containing the outbreak, China continues to face health challenges. One of the main issues is the country’s aging population, which is putting a strain on the healthcare system. Additionally, the country is facing a rise in non-communicable diseases, such as diabetes and cardiovascular disease, which are often linked to lifestyle factors such as poor diet and lack of exercise.

To address these challenges, the Chinese government implemented various healthcare reforms aimed at improving access to healthcare services and promoting healthy lifestyles. For example, the government increased funding of healthcare, expanded health insurance coverage, and launched public health campaigns to promote healthy living.

Authorities in the regions started devising province-specific strategies for inspecting workplaces and factories in preparation for resuming economic activity as soon as possible, with the level of scrutiny depending on the degree of danger present. These efforts started showing results about the middle of February, when the daily number of new infections started falling (Khanna et al., 2020). The official narrative that China was leaving the epidemic behind was bolstered by President Xi Jinping's surprise visit to the city of Wuhan on March 10 (Burki, 2020). Paradoxically, the first signals of coronavirus stabilization in the country coincided with its spread overseas in March, with the epicenter of the epidemic migrating from China to Europe (Finelli & Piazza, 2020).

Fearing a resurgence of the outbreak, as had occurred in several areas after the return of Chinese workers and travelers from overseas, enterprises and companies gradually resumed activity under some controls beginning in March. Despite the atmosphere of uncertainty that prevented authorities from completely relaxing containment policies, 95% of large companies and 60% of SMEs outside Hubei province resumed operations at the beginning of March by alternating teleworking with face-to-face shifts in companies and public administrations to avoid crowds (Wang & Zhang, 2021).

As the number of new cases continued to drop in April, the government was able to shift its approach to epidemic management, focusing instead on preventing the spread of the disease within the country through imported cases and extending a partial easing of control measures to help the economy recover. Some restaurants and retailers, for instance, were not allowed to open until they agreed to adhere to stringent cleanliness and capacity control standards (Lin et al., 2020). The government's efforts to revive the economy during the Labor Day holiday weekend (May 1–5) served as an early litmus test in this stabilization scenario. With the exception of a few northeastern provinces, where the risk of infection remains high, local administrations began easing travel restrictions on April 30, 2020.

More than \$6,700,000,000 was spent on over 115 million journeys throughout those five days. Although the numbers were down by roughly \$10 billion from 2019, they were seen as a positive development toward restoring economic stability in the country (Wang et al., 2020). Other pertinent measures were approved throughout the month of May to guarantee a return to normalcy, including the authorization to resume activity in all stores, restaurants, and hotels that applied precautionary measures; the reopening of recreational facilities like movie theaters, gyms, museums, and parks to a limited number of attendees; and the removal of masks in open spaces if a safe social distance was observed. The month of June marked the return to normalcy in China, with the notable exception of the integration of certain preventative measures into daily life (Grepin et al., 2021). These measures were to be kept in place until the authorities could

guarantee full control over COVID-19, which would depend not only on China's own policies but also on how the rest of the world handled the pandemic.

4. COVID-19 Negative Impact on the Chinese Economy

Chinese economic growth experienced a twofold negative shock in the first months of 2020 as a result of the government's extreme actions to contain COVID-19 (Vasiev et al., 2020). Demand fell as a result of measures taken to limit people's freedom of movement, as well as higher levels of uncertainty and the more cautious actions taken by economic agents. On the supply side, the global supply chains broke as a result of restrictions on population mobility and the (partial or complete) closure of companies and offices around the world (Guan et al., 2020).

It is worth noting that the impact of the COVID-19 pandemic has been global, and the US economy was not immune to its effects (see fig. 6). In fact, the pandemic caused a significant downturn in the US economy, leading to job losses, reduced consumer spending, and disruptions to supply chains and business operation. The US government implemented a range of economic policies to mitigate the impact of the pandemic, including financial stimulus, increased unemployment benefits, and support for businesses. Nonetheless, the pandemic's economic impact has been far-reaching, affecting industries such as travel, hospitality, and retail, and leading to long-term structural changes in the economy.



Figure 6. U.S. Economy Sees Sharp Downturn Amid COVID-19 Crisis. *Source:* U.S. Bureau of Economic Analysis

This double whammy led to the first negative growth rate of the Chinese economy since 1976, with a 6.8% drop in GDP recorded in the first quarter of 2020 (Boumans

et al., 2020). Nevertheless, as containment measures were eased, economic indicators began to improve, and the International Monetary Fund (IMF) estimated in its April macroeconomic forecasts that China would be one of the few economies to avoid recession in 2020 with growth of 1.2% at the end of the year, far below the 6.1% reached in 2019 (Sansa, 2020). For the first time in 30 years, during the celebration of the "Two Sessions," the biggest political event of the country, where the economic and social policy objectives for the following year are proclaimed, the Chinese authorities did not establish any official yearly growth target.

One of the largest spending periods in China is the period surrounding Chinese New Year, which began at the same time as the COVID-19 outbreak. Due to the isolation of population, limits on movement across the country, and the mandated shutdown of stores and recreational facilities, the first-quarter 2020 household consumption spending fell 12.5% year over year, compared to growth of 5.4% during the same period in 2019 (Stirparo et al., 2022). Within the decline in household consumption, the decline in retail sales of products stood out by 20.5% year-on-year in the January-February period, with a gradual improvement with decreases of 15.8% in March, 7.5% in April, and 2.8% in May due to the relaxing of containment measures (McKibbin & Fernando, 2021). While the zero-COVID approach had helped to control the spread of the virus, specifically the omicron variant, it had also had negative economic consequences. Strict lockdowns and travel restrictions significantly disrupted supply chains and reduced economic activity (see fig. 7).

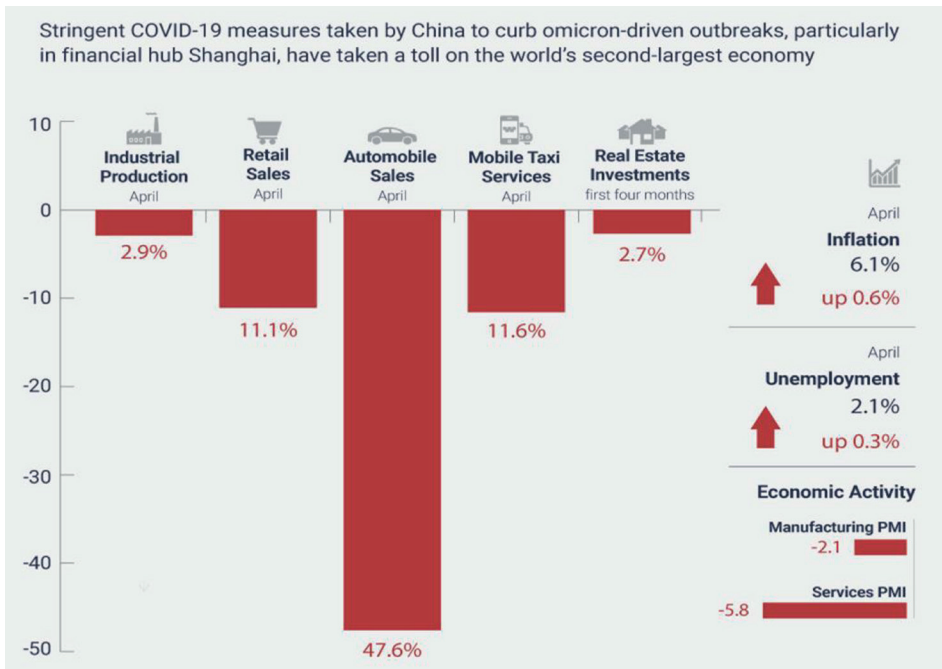


Figure 7. Zero-COVID policy battering China's economy. Source: Anadolu Agency

One of the most important drivers of the Chinese economy, vehicle sales, fell by 79% in February, then by 43% in March, and by 4.4% in April (Wen et al., 2021). Education, culture, and recreation (-36.1% year-on-year), transportation and communication (-17% year-on-year), and medical care and health services (-10.2% year-on-year) saw the largest decreases in household expenditure in the first quarter of 2020 because they needed their consumer's physical presence (Habibi et al., 2022).

Due to the population's continued careful conduct out of fear of a second epidemic, the gradual reopening of stores and businesses that began in March was insufficient to restore domestic consumption. Despite certain skepticism, consumers have shown strong support for online trade of goods (such as fresh food, consumer goods), and services (such as distance education and online medical consultations), with a 0.8% year-on-year increase in the first quarter, confirmed by a growth of 4.5% year-on-year in the first five months of the year (Pei et al., 2022). Alibaba's revenue in the first quarter of 2019 was up 22% year over year, reflecting the increased importance of online shopping during the COVID-19 pandemic. As this tendency held true throughout the other e-commerce platforms over the next several months, COVID-19 seems to have triggered one of the most significant structural shifts in China's economy to date by speeding up the digitalization of commerce (Zreik, 2022a).

There was a 24.5% drop in fixed-asset investment by households in the first two months of 2020, a 16.1% drop in the first quarter compared to the same period last year, a recovery to -10.3% in the first four months, and a -6.3% drop between January and May (Ji et al., 2020). Between January and February of 2021, real estate sales, the main component of household debt with an average annual growth of 22% between 2015 and 2019, dropped by 16.3% year-on-year (Ur Rahman et al., 2021). This marked the beginning of a gradual improvement as protocols of containment were relaxed in March, with a decrease of 2% in investment in fixed assets excluding rural households (Zhang et al. 2021).

In 2020, the global economy experienced some of the most significant reductions in trade and output volumes since World War II. The declines in world industrial production and goods trade in the first half of 2020 were similar to those during the Global Financial Crisis (GFC), but they happened more quickly, resulting in a rapid V-shaped recovery in 2020. Although trade continued to grow strongly in 2021, it did not fully compensate for the accumulated losses from the sharp declines seen earlier. Despite initial expectations of a double-digit decline in the world merchandise trade in 2020 due to the pandemic, the volume of global trade recovered to the pre-pandemic level astonishingly quickly, starting around mid-2020 (see fig. 8).

According to studies, the first quarter saw growth of 7.7 percent, the second quarter - growth of 3.3 percent, and the third quarter - 0.3 percent (Liu, 2021). When factories were shut down in the middle of January 2020, industrial value added fell by 13.5% in the first two months of the year, but then gradually recovered by 1.1% in March, 3.9% in April, and 4.4% in May (Rababah et al., 2020). Indicative of market sentiment among manufacturing enterprises, the Purchasing Managers' Index (PMI) fell to 35.7 in February, rose to 52 in March, and then fell to 50.8 in April (Xu, 2022).

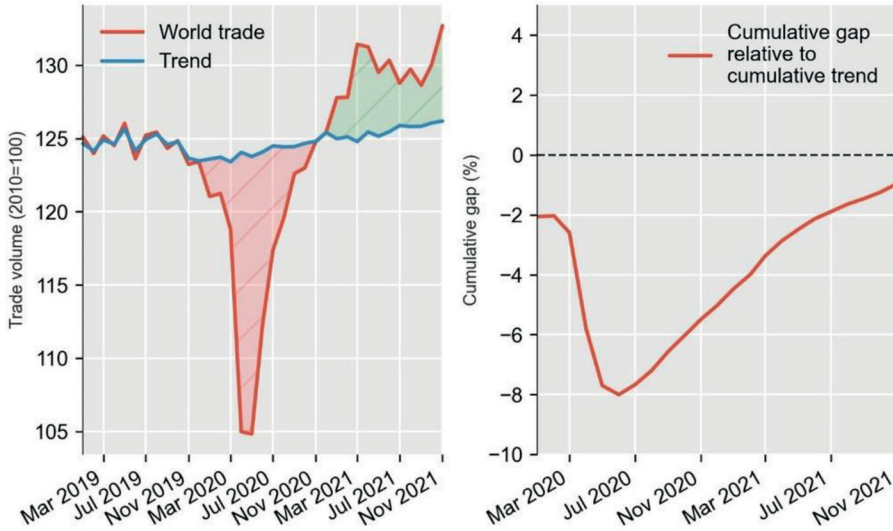


Figure 8. International trade during the COVID-19 pandemic: Big shifts and uncertainty. *Source:* OECD calculations based on CPB World Trade Monitor

The export orders component of the PMI dropped to 33.5 points in April from 46 points in March as a result of the global spread of the disease, which froze external demand. May's PMI was 50.6 (Meng, 2022). China's manufacturing sector has been on the rise since the country reopened its industries and industrial parks, but this increase has been slow and uneven. This was primarily due to the easing of restrictions, the mobility of people and goods within China, which necessitated a phased reinstatement of workers to production centers, and the logistical difficulties in sourcing raw materials and delivering finished goods from abroad caused by the closure of country borders in response to the global spread of COVID-19 (Naisbitt et al., 2022). As evidence, by the end of April, 98 percent of major businesses had resumed normal operations, but only 77.3 percent were using more than 80 percent of their available production capacity (Medina Serrano et al., 2020). As a result of the transportation shutdown and the closure of tourist attractions, enterprises, recreation facilities, and stores, the services sector shrank by 5.2% in the first quarter (Amighini, 2021).

Non-manufacturing Purchasing Managers' Index (PMI) dropped to 29.6 in February, but rose to 52.3 and 53.2 in March and April, respectively, as a gauge of market mood in the services and construction sectors (Xu, 2022). The construction index for the non-manufacturing PMI rose to 59.7 in April, up 4.6 points from the previous month, as public infrastructure projects were revived (Naisbitt et al., 2022). The NMI reached 53.6 points in May (Pei, 2020). To sum up, China's economy had been slowly improving since the beginning of March and continued doing so through the month of May. As has been shown, the behavior of economic agents was divided: while businesses reacted swiftly and regained their footing in April, consumers retained a more cautious attitude.

The sudden decline in external demand beginning in March as a result of the rest of the countries' whole or partial closure to deal with the COVID-19 epidemic and the ensuing slow rebound of domestic demand had combined to create deflationary pressures in the Chinese economy. In particular, consumer price index (CPI) slowed down as a result of the decline in domestic demand, falling from 5.2% year over year in February to 3.3% in April and 2.4% in May (Fan, 2020). The producer price index (PPI) had fallen as a result of excess supply, falling 0.5% year over year in February, 3.1% in April, and 3.5% in May (Wang et al., 2022). Income and earnings for businesses had dropped as a result of the deflationary pressures, starting with a -38.7% drop year-over-year in the first two months of the year, -36.7% in the first quarter, and -27.4% in the first four months of the year (Olufadewa et al., 2021).

However, COVID-19 is having varying effects on various business types. Small and medium-sized enterprises (SMEs), which account for 80% of employment and 60% of China's GDP, had been hit particularly hard by the slowdown in economic activity and the subsequent drop in demand (Lu et al., 2020). These businesses had difficulty dealing with the lack of liquidity caused by the decline in sales and the buildup of inventory, and they were also hampered by the absence of workers who were unable to return to their jobs. Tsinghua University (Beijing) concluded from this that more than 70% of the polled SMEs expected major negative impacts on sales by the end of March, and that 85% could not survive more than three months without financial backing (Min et al., 2020).

The large state-owned companies, on the other hand, are in a less precarious position because they have easier access to financing, a large cushion of cash reserves, and government protection, all of which had facilitated a quicker return to business throughout the month of March. Therefore, while private corporations had an 11.3% year-over-year drop in industrial value added in Q1, state-owned enterprises saw a 6% drop (Gu et al., 2020). The crisis had had varying effects on different types of businesses, but the widespread decrease in business income compelled many to cut costs in order to balance their books. These cuts were being made mostly through wage cuts or other personnel reductions. The expected salary loss for migrant employees in the first quarter of 2020 was \$115 billion (He et al., 2022).

In spite of these measures, many businesses were forced to downsize or terminate operations because they could not sustain their current levels of operation. Almost half a million Chinese businesses had shut down by the end of March 2020, and the number of the new ones had dropped by more than 30 percent compared to the same time in the previous year (Dai et al., 2021). This had led to a rise from 5.2% in January to 6% in April of this year in China's urban jobless rate, the benchmark statistic cited by the government (Han & Qian, 2020).

China's Q3 GDP growth, considered the first real post-pandemic reading, was disappointing with a growth of only 4.9 percent compared to experts' expectations of 5.2 percent YoY (see fig. 9). Although Q1 and Q2 GDP growth in 2021 seemed sky-high when calculated against the pandemic quarters of 2020, Q3 of 2021 used Q3 of 2020 as a reference when the pandemic was virtually over in China and GDP growth

had normalized. However, the global impact of the pandemic, along with China's power shortage linked to coal prices and production, and tight credit conditions due to ailing Chinese housing market were some of the reasons for the lower-than-expected results. Prior to the COVID-19 crisis, China's annual GDP growth stabilized at around 6 percent following a gradual slowdown from more than 10 percent growth in the first decade of the 21st century.

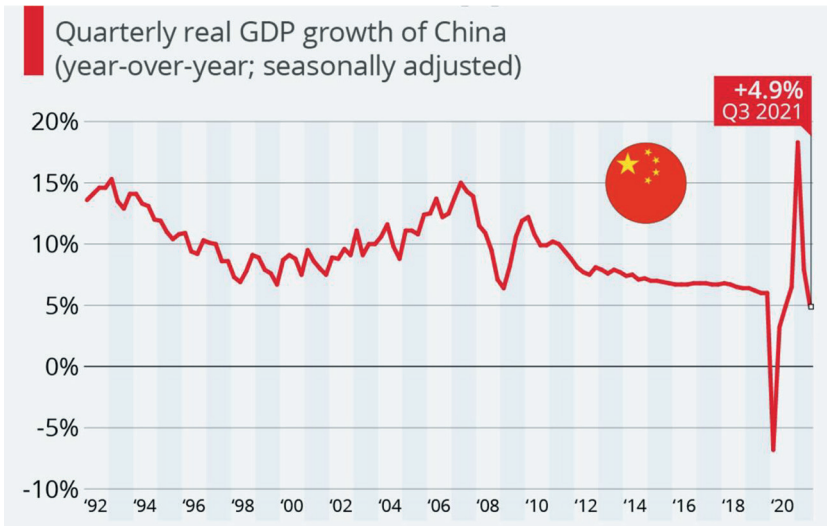


Figure 9. China's Post-Pandemic GDP Growth Disappoints. *Source:* National Bureau of Statistics of China, OECD

Some unofficial estimates place the unemployment rate in the secondary and tertiary sectors between 11% and 20% in March and April, which would be equivalent to the loss of between 60 and 100 million jobs (He et al., 2022). Most of these layoffs would come from private enterprises in the construction (23 million unemployed), retail trade (30 million unemployed), and hotel and catering industries (14 million unemployed) given the public promise of state companies not to decrease their workforces during the crisis (Min et al., 2020). Accordingly, as will be seen below, the stabilization of the labor market has been the primary focus of government efforts to manage the economic recovery of the country in the wake of the COVID-19 crisis.

5. Chinese Economic Policies to Confront COVID-19

Even though the Chinese economy had slowed down due to control measures in the fight against COVID-19, the government did not launch any sort of comprehensive economic stimulus package like they did during the 2008 financial crisis (Brem et al., 2020). China had taken a cautious approach to the epidemic from the start, relying on the modest deployment of expansive economic measures to aid the affected agents

immediately and mitigate the effects on the country's GDP. As has been customary since 1990, the Chinese government used the "Two Sessions" that took place from May 21st to the 28th to publicly endorse the continuation of the current fiscal and monetary policies, with the priority given to the stabilization of the labor market, at the expense of a growth objective (Song, 2022).

Since the outbreak's inception, the People's Bank of China's (PBoC) monetary policy strategy had centered on three primary goals. First, the reduction of the banks' required reserve ratio three times increased the system's overall liquidity. Second, there was a relaxation of lending standards and a reduction in interest rates for businesses that have been hit hardest by the pandemic. The prime rate on one-year loans dropped 30 basis points, till it reached 3.85%, while the rate on medium-term loans (one year) for financial institutions decreased from 3.25% at the beginning of the year to 2.95% in May (Funke & Tsang, 2020). Finally, a 40% increase in loans granted by commercial banks to SMEs and microenterprises, as well as recommendations to financial institutions on the adoption of innovative credit solutions and optimization of loan approval procedures, was expected to help alleviate liquidity problems for SMEs (Lu et al., 2020).

The government had adopted budgetary measures aimed at stabilizing employment and temporarily easing burdens on businesses, with a focus on small and medium-sized enterprises (SMEs). At the end of May, the government announced that the previous phase's tax and fee savings for corporations, totaling almost \$70,000,000,000, would be extended until the end of the year (Rababah et al., 2020). This meant that all and medium-sized businesses (SMEs) would no longer be required to pay their share of the cost of the Social Security system's old-age, unemployment, and occupational accident insurance premiums; small taxpayers would no longer be required to pay value-added tax (VAT) on services like public transportation, restaurants, hotels, and cultural and recreational activities (Zreik, 2021).

Small businesses and sole proprietors were allowed to postpone paying their corporate tax until 2021. In a similar vein, a budget of \$15,920,000,000 USD was set aside at the start of March to bolster health sector support (Lewis, 2022). This budget provides subsidies to medical staff as well as tax incentives to makers of epidemic prevention and control supplies. Finally, the announcement during the "Two Sessions" of an increase in the public deficit from 2.8% of GDP in 2019 to 3.6% in 2020 shows the clear intention of the Chinese authorities to continue approving new fiscal stimuli at the national level, depending on the evolution of epidemic control and the global economic crisis (Song, 2022). At the end of May, the provincial authorities' issuance quota for the so-called "special purpose bonds" reached \$525,000,000,000, an increase of \$224,000,000,000 over the corresponding figure for 2019 (Han & Qian, 2020).

The impacts of the containment policies implemented in China after the initial outbreak of the pandemic in Wuhan are presented in Figure 10. The AIS data clearly shows the forward propagation to Malaysia (reduced imports from China) and backward propagation to Australia (less demand for iron ore) at the time China reduces exports (with a time lag for Malaysia), as in the model. Thus, the model simulations

can effectively reproduce some of the pandemic's impacts on global trade. Figures b, c, and d show the substitution effect in Vietnam exports during export reduction in China, differences in exports for China, USA, UK and South Africa given similar lockdown stringency, and recovery dynamics for China, Germany, New Zealand, and Italy exports after relaxing lockdown intensities, respectively. The figures illustrate the effects of the pandemic on global trade and how they can be analyzed and modeled.

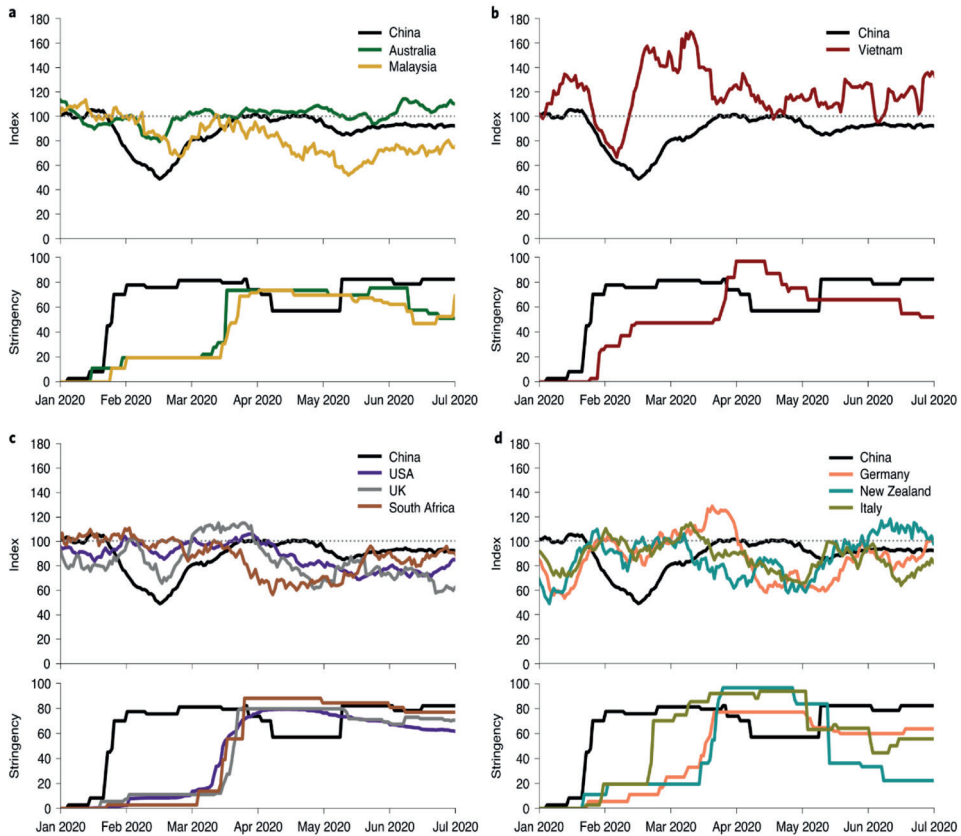


Figure 10. The impact of COVID-19 on shipping imports and exports from selected countries. *Source:* Nature Human Behaviour (Nat Hum Behav)

These bonds are meant to fund initiatives in areas including urban planning, energy, and public health as well as emerging technologies like the Internet of Things, 5G, and AI. Aiming to increase spending in the tourism, retail, entertainment, and dining industries, the less indebted provinces had issued \$2.7 billion in local digital consumer coupons through the most popular mobile payment systems in the country (Dai et al., 2021). Last but not least, the passage of a \$280 billion proposal to boost local public spending is notable. Since the end of February, the government has been implementing sector-level steps to revive specific industries. In particular,

the Civil Aviation Administration of China (CAAC) has been providing financial aid to domestic and international airlines since the beginning of March so long as they do not cancel or significantly reduce international flights to or from China. In addition, midway through April saw an increase in subsidies for guaranteed loans to certain small and medium-sized enterprises (SMEs) opening a new business or working in the wholesale, retail, or restaurant industries, as well as full-time drivers who have taken out car loans to cover the cost of the online service. At the end of April, lawmakers authorized a two-year renewal of the vehicle purchase tax exemption for NEVs as well as subsidies for select NEVs (Zreik, 2022b).

The Chinese government initially focused on containing the spread of the virus during the early stages of the epidemic. This meant implementing strict lockdowns and travel restrictions, which had a significant impact on the economy. However, the government believed that controlling the virus was necessary to prevent the health crisis from worsening and to facilitate the ultimate stabilizing of the economy. As the spread of the virus was gradually brought under control, the government shifted its attention to economic recovery. It introduced several policies, such as tax cuts, subsidies, and infrastructure spending to stimulate consumption, investment, and encourage businesses to resume operations. Also, the government initiated measures to support employment, such as job training programs and subsidies for small and medium-sized enterprises. These policies resulted in a faster-than-expected rebound of the Chinese economy. The government then transitioned to promoting long-term growth by implementing structural reforms that reduced the country's dependence on exports and encouraged domestic consumption. This approach included investment in high-tech industries and green energy, improving the business environment by streamlining regulations and reducing red tape.

In short, the Chinese government is well-aware of the need to take decisive action to counter the problems arising from COVID-19, albeit taking a different approach to other crises, by concentrating on specific measures aimed at stimulating those productive sectors that offer greater added value, stabilizing the labor market, and protecting the most disadvantaged sectors of society. Depending on how the economic crisis and the COVID-19 epidemic are managed, China will modify its economic policy program to make it more and more effective.

6. Conclusion

Based on the analysis conducted, this study provides several significant contributions to the research discourse on the impact of the COVID-19 pandemic on China. Firstly, the study highlights the severe negative impact of COVID-19 on the Chinese economy, that had led to the first annual decline in growth since 1976. Secondly, the study provides insight into the effectiveness of the Chinese government's economic policies in response to the crisis. Finally, the study suggests that China was first to emerge from the crisis and serve as a model for other economies.

The study's findings provide a comprehensive understanding of the COVID-19 pandemic's impact on China's health and economy. The insights gained from this study can serve as a valuable reference for policymakers and researchers in other countries facing similar crises. Additionally, this study contributes to the existing body of research on the global economic impact of pandemics and highlights the need for effective economic policies to mitigate the pandemic's negative effects.

During the first three months of 2020, the Chinese economy had been hit by a double negative supply and demand shock due to the COVID-19 crisis, leading to a decline in domestic consumption and investment and a complete halt in industrial activity. Since mid-February, corporate activity was on the upswing, although domestic demand was reviving at a slower pace. Meanwhile, with the global spread of COVID-19, demand from abroad ceased entirely.

This divergent demand and supply growth was creating a deflationary climate in the Chinese economy, which was having a detrimental effect on company profitability and led to the layoffs and eventual closure of many businesses. Chinese leaders had been watching the effects of COVID-19 attentively and responding with continual stimulus measures. As a result, they prioritized maintaining a stable labor market in 2020 over achieving a precise goal of economic development. While there were still many obstacles to overcome, the expansion of China's economic giants in April and May confirmed the IMF's April predictions that China and India would be the only two states to see positive growth rates in 2020.

However, the success of the global effort to contain the epidemic and prevent the emergence of future outbreaks will be crucial to the rate and scope of the recovery. Regardless of how these elements change, it is clear that China had managed to slow the spread of the pandemic in little over five months and started the process of reviving the economy to the point that life may return to some semblance of normal for the majority of its people. This change can be used as a benchmark and, more importantly, as a cause for optimism regarding the prospect of emerging victorious from the current crisis.

References

- Alfani, G., & Murphy, T. E. (2017). Plague and lethal epidemics in the pre-industrial world. *the Journal of economic History*, 77(1), 314-343.
- Amighini, A. (2021). China after Covid-19: economic revival and challenges to the world. *China after Covid-19*, 1-183.
- Borio, C. (2020). The Covid-19 economic crisis: Dangerously unique. *Business Economics*, 55(4), 181-190.
- Boumans, D., Link, S., & Sauer, S. (2020). *COVID-19: The world economy needs a lifeline-but which one?* (No. 27). EconPol Policy Brief.
- Brauer, F., Van den Driessche, P., & Allen, L. J. (2008). *Mathematical epidemiology* (Vol. 1945, pp. 3-17). J. Wu (Ed.). Berlin: Springer.

- Brem, A., Nylund, P., & Viardot, E. (2020). The impact of the 2008 financial crisis on innovation: A dominant design perspective. *Journal of Business Research*, 110, 360-369.
- Burki, T. (2020). China's successful control of COVID-19. *The Lancet Infectious Diseases*, 20(11), 1240-1241.
- Chen, J., Chen, W., Liu, E., Luo, J., & Song, Z. M. (2020). The economic impact of COVID-19 in China: Evidence from city-to-city truck flows. *University of Princeton*.
- Chen, S., Yang, J., Yang, W., Wang, C., & Bärnighausen, T. (2020). COVID-19 control in China during mass population movements at New Year. *The Lancet*, 395(10226), 764-766.
- Dai, R., Feng, H., Hu, J., Jin, Q., Li, H., Wang, R., ... & Zhang, X. (2021). The impact of COVID-19 on small and medium-sized enterprises (SMEs): Evidence from two-wave phone surveys in China. *China Economic Review*, 67, 101607.
- Dhar, B. K. (2020). Impact of COVID-19 on Chinese Economy. *Economic Affairs*, 9(3/4), 23-26.
- Fan, S. (2020). Agriculture, food and nutrition security under Covid-19: lessons from China. *Review of Agrarian Studies*, 10(2369-2020-1857).
- Fanelli, D., & Piazza, F. (2020). Analysis and forecast of COVID-19 spreading in China, Italy and France. *Chaos, Solitons & Fractals*, 134, 109761.
- Funke, M., & Tsang, A. (2020). The People's bank of China's response to the coronavirus pandemic: A quantitative assessment. *Economic Modelling*, 93, 465-473.
- Grépin, K. A., Ho, T. L., Liu, Z., Marion, S., Piper, J., Worsnop, C. Z., & Lee, K. (2021). Evidence of the effectiveness of travel-related measures during the early phase of the COVID-19 pandemic: a rapid systematic review. *BMJ global health*, 6(3), e004537.
- Gu, X., Ying, S., Zhang, W., & Tao, Y. (2020). How do firms respond to COVID-19? First evidence from Suzhou, China. *Emerging Markets Finance and Trade*, 56(10), 2181-2197.
- Guan, D., Wang, D., Hallegatte, S., Davis, S. J., Huo, J., Li, S., ... & Gong, P. (2020). Global supply-chain effects of COVID-19 control measures. *Nature human behaviour*, 4(6), 577-587.
- Habibi, Z., Habibi, H., & Mohammadi, M. A. (2022). The potential impact of COVID-19 on the Chinese GDP, trade, and economy. *Economies*, 10(4), 73.
- Han, H., & Qian, Y. (2020). Did enterprises' innovation ability increase during the COVID-19 pandemic? Evidence from Chinese listed companies. *Asian Economics Letters*, 1(3), 18072.
- He, A. J., Zhang, C., & Qian, J. (2022). COVID-19 and social inequality in China: the local-migrant divide and the limits of social protections in a pandemic. *Policy and Society*, 41(2), 275-290.
- Keogh-Brown, M. R., Jensen, H. T., Edmunds, W. J., & Smith, R. D. (2020). The impact of Covid-19, associated behaviours and policies on the UK economy: A computable general equilibrium model. *SSM-population health*, 12, 100651.
- Khafaie, M. A., & Rahim, F. (2020). Cross-country comparison of case fatality rates of COVID-19/SARS-COV-2. *Osong Public Health and Research Perspectives*, 11(2), 74.
- Khanna, R. C., Cicinelli, M. V., Gilbert, S. S., Honavar, S. G., & Murthy, G. V. (2020). COVID-19 pandemic: Lessons learned and future directions. *Indian journal of ophthalmology*, 68(5), 703-710.
- Lewis, D. (2022). Will Omicron finally overpower China's COVID defences. *Nature*, 604(7904), 17-18.
- Li, J., Song, Q., Peng, C., & Wu, Y. (2020). COVID-19 pandemic and household liquidity constraints: Evidence from micro data. *Emerging Markets Finance and Trade*, 56(15), 3626-3634.

- Lin, B. X., & Zhang, Y. Y. (2020). Impact of the COVID-19 pandemic on agricultural exports. *Journal of Integrative Agriculture*, 19(12), 2937-2945.
- Lin, Q., Zhao, S., Gao, D., Lou, Y., Yang, S., Musa, S. S., ... & He, D. (2020). A conceptual model for the coronavirus disease 2019 (COVID-19) outbreak in Wuhan, China with individual reaction and governmental action. *International journal of infectious diseases*, 93, 211-216.
- Liu, D., Sun, W., & Zhang, X. (2020). Is the Chinese economy well positioned to fight the COVID-19 pandemic? The financial cycle perspective. *Emerging Markets Finance and Trade*, 56(10), 2259-2276.
- Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, Z. (2020). The COVID-19 outbreak and affected countries stock markets response. *International Journal of Environmental Research and Public Health*, 17(8), 2800.
- Liu, K. (2021). COVID-19 and the Chinese economy: impacts, policy responses and implications. *International Review of Applied Economics*, 35(2), 308-330.
- Liu, Z., & Hu, B. (2020). China's economy under COVID-19: Short-term shocks and long-term changes. *Modern Economy*, 11(4), 908-919.
- Lu, Q., Cai, Z., Chen, B., & Liu, T. (2020). Social policy responses to the Covid-19 crisis in China in 2020. *International journal of environmental research and public health*, 17(16), 5896.
- Lu, Y., Wu, J., Peng, J., & Lu, L. (2020). The perceived impact of the Covid-19 epidemic: evidence from a sample of 4807 SMEs in Sichuan Province, China. *Environmental Hazards*, 19(4), 323-340.
- Luo, R. F., Liu, C. F., Gao, J. J., Wang, T. Y., Zhi, H. Y., Shi, P. F., & Huang, J. K. (2020). Impacts of the COVID-19 pandemic on rural poverty and policy responses in China. *Journal of Integrative Agriculture*, 19(12), 2946-2964.
- McKibbin, W., & Fernando, R. (2021). The global macroeconomic impacts of COVID-19: Seven scenarios. *Asian Economic Papers*, 20(2), 1-30.
- Medina Serrano, R., González-Ramírez, R., Gascó, J. L., & Wellbrock, W. (2020). Coronavirus (COVID-19): How to secure the supply chain?—a case study.
- Meng, W. (2022, July). Impacts of the COVID-19 Pandemic on Chinese SMEs and Countermeasures. In *2022 2nd International Conference on Enterprise Management and Economic Development (ICEMED 2022)* (pp. 843-848). Atlantis Press.
- Min, J., Yuanhong, H., & Xin, L. (2020). Financial support for small and medium-sized enterprises in China amid COVID-19. *Финансы: теория и практика*, 24(5), 6-14.
- Muniz-Rodriguez, K., Chowell, G., Cheung, C. H., Jia, D., Lai, P. Y., Lee, Y., ... & Fung, I. C. H. (2020). Doubling time of the COVID-19 epidemic by province, China. *Emerging infectious diseases*, 26(8), 1912.
- Naisbitt, B., Boshoff, J., Hurst, I., Liadze, I., Macchiarelli, C., Mao, X., & Sanchez Juanino, P. (2022). Global Economic Outlook. *National Institute Global Economic Outlook*, (6 Spring), 6-23.
- Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., ... & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International journal of surgery*, 78, 185-193.
- Olufadewa, I. I., Adesina, M. A., Ekpo, M. D., Akinloye, S. J., Iyanda, T. O., Nwachukwu, P., & Kodzo, L. D. (2021). Lessons from the coronavirus disease 2019 (COVID-19) pandemic response

- in China, Italy, and the US: a guide for Africa and low-and middle-income countries. *Global Health Journal*, 5(1), 56-61.
- Pei, J., de Vries, G., & Zhang, M. (2022). International trade and Covid-19: City-level evidence from China's lockdown policy. *Journal of regional science*, 62(3), 670-695.
- Pei, M. (2020). China's coming upheaval: Competition, the coronavirus, and the weakness of Xi Jinping. *Foreign Aff.*, 99, 82.
- Rababah, A., Al-Haddad, L., Sial, M. S., Chunmei, Z., & Cherian, J. (2020). Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies. *Journal of Public Affairs*, 20(4), e2440.
- Sansa, N. A. (2020). The Impact of the COVID-19 on the Financial Markets: Evidence from China and USA. *Electronic Research Journal of Social Sciences and Humanities*, 2.
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, 56(10), 2213-2230.
- Song, W. (2022). 'Seizing the Window of Strategic Opportunity': A Study of China's Macro-Strategic Narrative since the 21st Century. *Social Sciences*, 11(10), 461.
- Stirparo, G., Ristagno, G., Bellini, L., Bonora, R., Pagliosa, A., Migliari, M., ... & Fagoni, N. (2022). Changes to the major trauma pre-hospital emergency medical system network before and during the 2019 COVID-19 pandemic. *Journal of clinical medicine*, 11(22), 6748.
- Ur Rahman, I., Jian, D., Junrong, L., & Shafi, M. (2021). Socio-economic status, resilience, and vulnerability of households under COVID-19: Case of village-level data in Sichuan province. *PLoS One*, 16(4), e0249270.
- Vasiev, M., Bi, K., Denisov, A., & Bocharnikov, V. (2020). How COVID-19 pandemics influences Chinese economic sustainability. *Форсаїм*, 14(2 (eng)), 7-22.
- Wang, Q., & Su, M. (2020). A preliminary assessment of the impact of COVID-19 on environment—A case study of China. *Science of the total environment*, 728, 138915.
- Wang, Q., & Zhang, F. (2021). What does the China's economic recovery after COVID-19 pandemic mean for the economic growth and energy consumption of other countries?. *Journal of Cleaner Production*, 295, 126265.
- Wang, X., Wang, L., Zhang, X., & Fan, F. (2022). The spatiotemporal evolution of COVID-19 in China and its impact on urban economic resilience. *China Economic Review*, 74, 101806.
- Wang, Y., Han, W., Pan, L., Wang, C., Liu, Y., Hu, W., ... & Zheng, X. (2020). Impact of COVID-19 on blood centres in Zhejiang province China. *Vox sanguinis*, 115(6), 502-506.
- Wang, Y., Shi, L., Que, J., Lu, Q., Liu, L., Lu, Z., ... & Shi, J. (2021). The impact of quarantine on mental health status among general population in China during the COVID-19 pandemic. *Molecular psychiatry*, 26(9), 4813-4822.
- Wei, P., Jin, C., & Xu, C. (2021). The influence of the COVID-19 pandemic on the imports and exports in China, Japan, and South Korea. *Frontiers in public health*, 9, 682693.
- Wen, W., Yang, S., Zhou, P., & Gao, S. Z. (2021). Impacts of COVID-19 on the electric vehicle industry: Evidence from China. *Renewable and Sustainable Energy Reviews*, 144, 111024.
- Xu, X. (2022). The Impact of COVID-19 Pandemic on Insurance Markets and Policy Responses. In *COVID-19's economic impact and countermeasures in China*, (pp. 271-289).
- Yang, H., & Deng, P. (2021). The impact of COVID-19 and government intervention on stock markets of OECD countries. *Asian Economics Letters*, 1(4).

- Yang, Y., Peng, F., Wang, R., Guan, K., Jiang, T., Xu, G., ... & Chang, C. (2020). The deadly coronaviruses: The 2003 SARS pandemic and the 2020 novel coronavirus epidemic in China. *Journal of autoimmunity*, 109, 102434.
- Zhang, Y., Lu, X., Yin, H., & Zhao, R. (2021). Pandemic, risk-adaptation and household saving: Evidence from China. *China Finance Review International*.
- Zhao, Q., Meng, M., Kumar, R., Wu, Y., Huang, J., Deng, Y., ... & Yang, L. (2020). Lymphopenia is associated with severe coronavirus disease 2019 (COVID-19) infections: A systemic review and meta-analysis. *International journal of infectious diseases*, 96, 131-135.
- Zreik, M. (2021). The Potential of a Sino-Lebanese Partnership through the Belt and Road Initiative (BRI). *Contemporary Arab Affairs*, 14(3), 125-145.
- Zreik, M. (2022a). Contemporary geopolitics of Eurasia and the Belt and Road Initiative. *Eurasian Research Journal*, 4(1), 7-26.
- Zreik, M. (2022b). The Chinese presence in the Arab region: Lebanon at the heart of the Belt and Road Initiative. *International Journal of Business and Systems Research*, 16(5-6), 644-662.