

Resuming Full Operations: Challenges and Countermeasures

Academic Center for Chinese Economic Practice and Thinking

Tsinghua University

Research Group on the COVID-19 Outbreak

David Daokui Li and Li Keaobo

February 21, 2020

Abstract

This article raises the following six points based on relevant research:

First, according to the model-based prediction of the Academic Center for Chinese Economic Practice and Thinking (ACCEPT), **if appropriate policies are introduced, the economic impact of the COVID-19 outbreak will be limited and controllable. If the outbreak is stabilized and operations are fully resumed by the end of Q1 or by the end of the first half of the year, national economic growth will be reduced by 0.17 or 0.36 percent, respectively, and the original economic development target will still be within reach.**

Second, COVID-19 differs from SARS in several ways, including the fact that China's economy was in a different growth stage when each of the two viruses hit the country. In the fight against COVID-19, **the top priority is to resume operations safely and smoothly, which is more important than any financial or monetary stimulus.**

Third, **regulations and standards for preventing infection during economic activities must be put in place to strictly prevent the large-scale resurgence of COVID-19 after the resumption of operations.**

Fourth, it should be **made clear that local authorities and enterprises will not be held accountable for any new COVID-19 cases as long as they have strictly followed the scientific specifications for prevention and control while resuming operations. In this way, the local authorities may focus on resuming operations rather than reducing the number of COVID-19 cases.**

Fifth, **key industry chains should be reviewed, and excess capacity in key deficit links should be subsidized to prevent the interruption of other enterprises due to the failure of key enterprises to resume operations.**

Sixth, **the government should provide a detailed update on the mortality rates of patients based on age and health status to prevent societal panic.**

I. Impact of COVID-19 on China's Economic Growth

According to the model-based prediction of the Academic Center for Chinese Economic Practice and Thinking (ACCEPT), if appropriate policies are introduced (such as during the SARS outbreak in 2003, when appropriate policies were introduced to control the outbreak and stabilize the economy) and COVID-19 is brought under control within Q1 2020, resulting in a full resumption of operations, then national economic growth will be reduced by 0.17 percent. However, if the outbreak lasts through Q2, Q3, or Q4, the negative impact will be 0.36, 0.55, or 0.77 percent, respectively. Prior to the COVID-19 outbreak, ACCEPT predicted that China's economic growth would stay at 6.1% in 2020. In light of the COVID-19 outbreak, **growth is now forecast at 5.3-5.9%, depending on when the pandemic abates.**

According to the ACCEPT, **if appropriate policies are introduced, the economic impact of the COVID-19 outbreak will be limited and controllable, and China's original policy goals can be met as expected.** First, although total consumption-related indicators may decrease significantly in the short term, added value will not see a sharp reduction. Second, in contrast with SARS, COVID-19 broke out in Q1, the least active economic quarter of the year. Third, the rapid development of logistics, transportation, e-commerce, and virtual collaboration over the past few years has allowed some economic activities to carry on through the COVID-19 outbreak. Fourth, the government has introduced countermeasures to stabilize economic operation much earlier than in the case of SARS. In short, compared with the 2003 SARS epidemic, the 2020 COVID-19 pandemic will have less of an impact on the national economy. However, it should be noted that China's economy was on an upswing as it joined the accelerated pace of globalization during the 2003 SARS epidemic, while currently, China's economy is in the midst of a stable downward trend intertwined with complex de-globalization. Therefore, **in the fight against COVID-19, the top priority is to resume operations safely and smoothly. This is more important than any financial or monetary stimulus.**

COVID-19 has two major characteristics: **First, it is highly infectious and has a long incubation period.** Researchers have found that the basic reproduction number (R_0) of COVID-19 is 2.2 (95% confidence interval, 1.4-3.9). In contrast, the basic reproduction numbers of SARS and HIV are 3 and 2-5, respectively. Moreover, COVID-19 has a relatively short doubling time, as the number of confirmed cases doubles every 6.4 days. In comparison, the doubling time of SARS is 14.2 days—more than twice the figure for COVID-19. In addition, **as COVID-19 has a very long incubation period, we should acknowledge that the pandemic is likely to last for a long time and have multiple resurgences.** **Second, the mortality rate of COVID-19 is lower than that of other severe epidemics.** Currently, the mortality rate of COVID-19 is 2-3%, with the elderly and chronically ill most susceptible to death. In contrast, the mortality rates of SARS and MERS are 9.6% and 34.5%, respectively, while the mortality rate of influenza is lower (about 0.1%) but has a wider impact. According to the WHO, about 250,000-500,000 people worldwide die from influenza each year.

The above analysis demonstrates that compared with SARS, COVID-19 may be less severe, but also more difficult to eradicate. Although outbreaks may recur from time to time,

COVID-19's lethality can be effectively controlled. It will take more than 18 months to develop and distribute an effective vaccine, so it is unrealistic to consistently expect zero new cases in the short term.

ACCEPT predicted the impact of COVID-19 on China's economic growth under the following three preconditions:

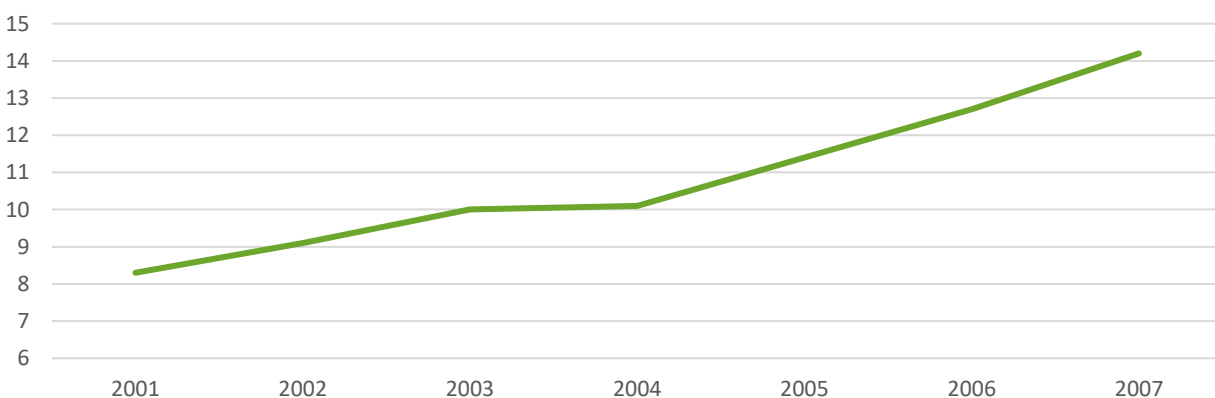
First, the actual impact of COVID-19 is basically controlled by the end of Q1 2020, and operations are fully resumed in all regions across China except for Hubei province.

Second, the actual impact of COVID-19 is basically controlled by the end of June 2020, and operations are fully resumed nationwide.

Third, the actual impact of COVID-19 is controlled by the end of 2020, and operations are fully resumed nationwide.

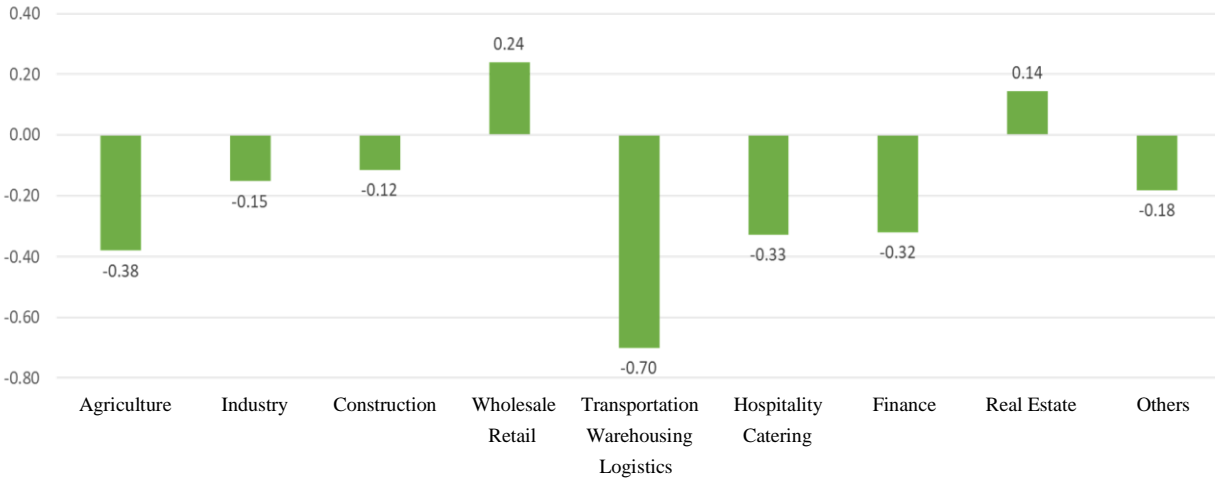
Using the economic impact of SARS under the government's active response measures in 2003 as a baseline, ACCEPT predicted the impact of COVID-19 on China's economic growth. Figure 1 depicts China's GDP growth during 2001-2007. The impact of SARS on the national economy is difficult to spot in this data, indicating that SARS only had a short-term impact on the economy. To observe these short-term effects, we used quarterly data from 2003. Figure 2 shows the relative changes in the growth of various industries in Q2 2003 (the worst period of SARS) compared with the previous quarter. The impact of SARS varied significantly among industries: compared with manufacturing, the service industry was hit harder, in which the transportation, warehousing, and postal service industries saw the biggest drop (growth decreased from 7.7% in Q1 to 2.3% in Q2 2003), followed by accommodation and catering (from 11% to 7.4%).

Figure 1: China's GDP growth (%) during 2001-2007



Source: National Bureau of Statistics

Figure 2: Relative changes in the value-added growth of various industries in Q2 2003

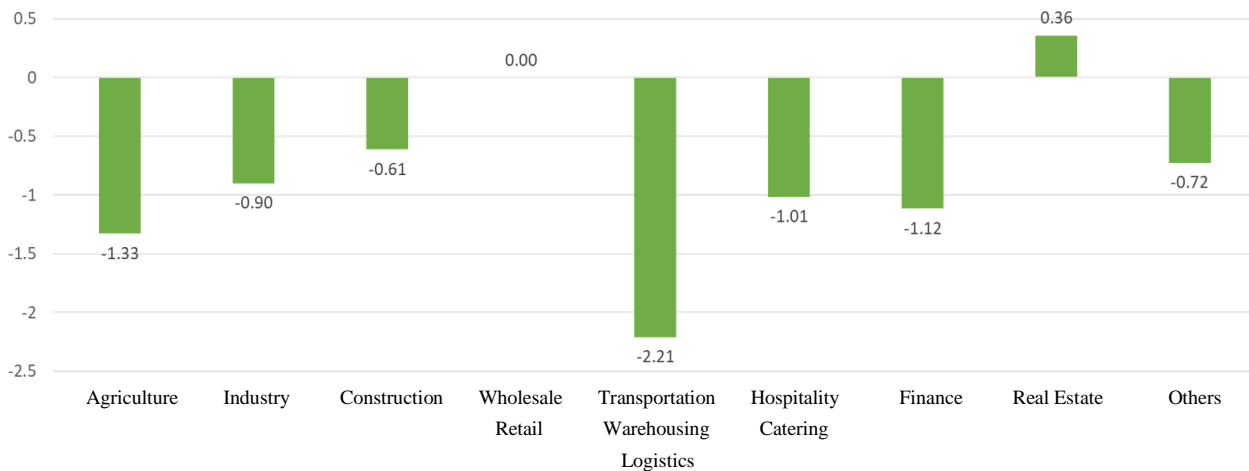


Note: $Relative\ change = (YoY\ growth\ in\ Q2 - YoY\ growth\ in\ Q1\ 2003) \div YoY\ growth\ in\ Q1\ 2003$

Source: National Bureau of Statistics

ACCEPT predicted the impact of COVID-19 based on the impact of the SARS outbreak on the added-value growth of different industries in 2003. We also made two adjustments to reflect changes in the current economic climate. First, **due to the rapid development of logistics, transportation, e-commerce, and network infrastructure, some economic activities have been able to carry on through the COVID-19 outbreak, and therefore we believe that the impact of COVID-19 on the service industry will be smaller than that of SARS.** Second, as the government actively urged residents to stay at home and refrain from going out unless necessary, we predict that the wholesale and retail industries will be severely impacted.

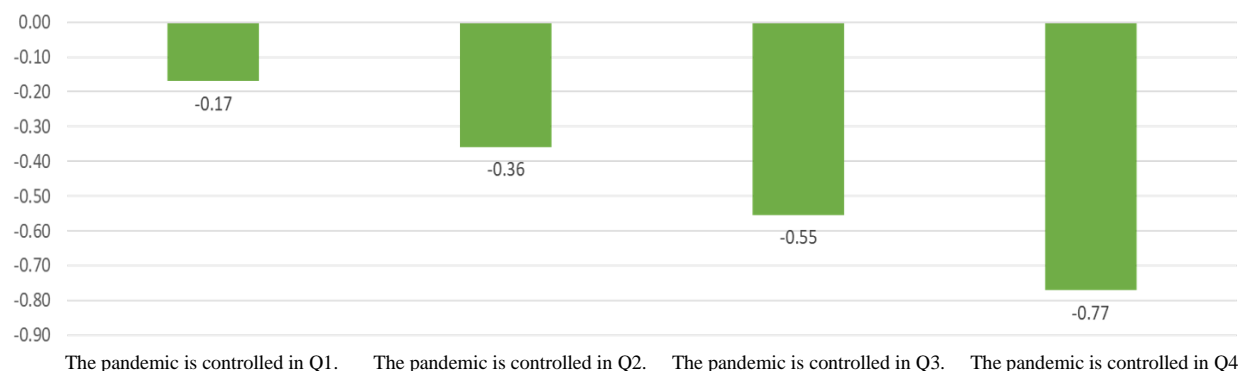
Figure 3: The predicted absolute impact of COVID-19 on the quarterly year-on-year value-added growth of sub-industries (%)



Source: National Bureau of Statistics

Based on the analysis above, ACCEPT calculated the absolute impact of COVID-19 on the quarterly year-on-year growth of different industries (Figure 3), and then used the weighted average reflecting the impact on quarterly year-on-year growth across different industries to calculate the impact of COVID-19 on the quarterly growth of China's overall GDP. Finally, we multiplied the weighted average by the quarterly output ratio to estimate the impact of COVID-19 on China's economic growth in 2020 under four different scenarios.

Figure 4: Estimated impact of COVID-19 on China's overall economic growth in 2020 (%)



Note: The formula for calculating the impact of COVID-19 on China's economic growth in Qx is the sum of weighted impacts on various industries multiplied by the output ratio of Qx (i.e. Output of Qx 2019 ÷ Total output of 2019); If the COVID-19 outbreak is included in Qx, the impact on China's economic growth in 2020 is the overall impact from Q1 to Qx.

Source: National Bureau of Statistics

ACCEPT predicted that **if the actual impact of COVID-19 is controlled in Q1 2020 and operations are resumed in all regions across China except for Hubei province, China's economic growth will be reduced by 0.17 percent.** If the outbreak continues through Q2, Q3, or Q4 2020, China's economic growth will be dragged down by 0.36, 0.55, or 0.77 percent, respectively (Figure 4). Such predictions are basically consistent with those made by other research institutes at home and abroad.

II. Challenges and Countermeasures for Resuming Operations

The above analysis demonstrates that compared with other epidemics such as SARS, COVID-19 is highly infectious with a longer incubation period and a lower mortality rate among groups in good health. To this end, all sectors of society should take preventative measures and make policy plans to prepare for the resumption of operations in a new reality—one in which the threat of the virus is weakened but not eradicated, with the constant possibility of resurgence. It is inadvisable to wait to resume operations until after COVID-19 is completely eradicated. On the contrary, we should carefully consider how to tackle the outbreak while resuming operations across the board—to shift from an emergency response to a normalized, comprehensive response. It will be difficult to control the pandemic if operations cannot be resumed gradually, as the production, transportation, and appropriate allocation of medical supplies and even daily necessities will be interrupted. **As the pandemic develops, resuming normal operation of the national economy**

is becoming increasingly critical because it is closely related to our capability to prevent and control the pandemic. Failure to fully resume operations will not only compromise our ability to fight against COVID-19 and lead to secondary hazards, but will also have negative effects on many aspects of the economy, including unemployment, debts, and industry chain migration.

The following four major challenges may arise during the resumption of operations, and relevant parties should consider targeted countermeasures:

Challenge 1: COVID-19 may rebound on a large scale after the resumption of operations.

Regulations and standards for preventing infection during economic activities must be put in place to prevent a large-scale resurgence of the pandemic. Appropriate scientific management methods should be adopted by every industry and region. At present, the resumption of production is especially critical, particularly with regard to manufacturing and construction. **We suggest that the grid management approach used in local communities should be expanded to workplaces. This will facilitate the unified management of employees' work and personal lives.**

This management approach primarily involves three steps. The first is to implement stringent production and operation protocols for pandemic prevention and control in the workplace. The second is to improve the accommodation, catering, and sanitation conditions of employees, and to build temporary prefabricated houses to reduce residential density. Employees can also be rented rooms in budget hotels to simultaneously relieve employee housing challenges while also helping hotels resume operations during the pandemic. The third step is to continually monitor the health status of employees. During this process, local governments should introduce related policies to encourage enterprises to resume operations, especially by sharing the costs incurred in pandemic prevention and control. For companies that resume work in strict accordance with prevention and control procedures, relevant authorities should commit to bearing all costs generated in the case of a COVID-19 resurgence.

A set of rigid management processes must be implemented after the resumption of operations to prevent a lapse in vigilance within communities and families after the pandemic is curbed. This is especially important in light of the fact that a great number of workers engaged in manufacturing and construction live in underdeveloped regions with poor healthcare infrastructure and weak pandemic prevention measures. Therefore, the resumption of operations under careful scientific guidance will actually be more conducive to controlling infection in the longer term.

Challenge 2: Local governments may tend to focus more on curbing the number of COVID-19 cases than resuming operations.

During the COVID-19 outbreak, infection control became an emergency priority, and therefore controlling the number of infected cases has become the top concern for local

governments. Now, as the healthcare community and scientific research community have reached a consensus on the transmission characteristics and mortality rate of COVID-19, and as we begin to see the positive results of previous emergency measures, the priority of local governments should be adjusted accordingly. Local governments should shift their focus to the number of new cases per CNY 100 million in GDP rather than focusing solely on the number of new cases. This will encourage a two-pronged approach of simultaneously guarding against the pandemic and resuming operations. **If we overemphasize a "zero tolerance" for new cases, local governments will be reluctant to resume operations, thus generating extremely high economic costs. Furthermore, they will be incentivized to conceal accurate data about new cases, which is also not conducive to the fight against COVID-19.** For these reasons, **it should be made clear that local governments and enterprises will not be held accountable for any new COVID-19 cases as long as they have strictly followed the pandemic prevention and control protocols when resuming operations. Moreover, high-level financial authorities should subsidize enterprises to help them cover the costs incurred by isolation measures.**

Challenge 3: The services of some enterprises may be interrupted due to the failure of key enterprises to resume operations.

China is a manufacturing powerhouse, and thus every sector has a lengthy industry chain. With the rapid development of the Internet and logistics over the past few years, upstream enterprises have begun to work closely with downstream enterprises, and Chinese enterprises have also formed strong connections with their foreign partners. When suppliers along the industry chain face problems, this not only poses a significant threat to the industry chain as a whole, also has the possibility to impede the future competitiveness of China's economy on the international stage. At present, some enterprises that have resumed operations are still failing to meet production targets or have even faced further interruptions due to a lack of support from upstream and downstream suppliers. Other enterprises have taken a wait-and-see approach, basing their decisions on the ability of their partners along the industry chain to resume operations. Due to the interconnectedness of enterprises, we can see that business resumption will not only boost the normal operations of entire industry chains, but also generate positive externalities.

Therefore, the government **should review China's most important industry chains and subsidize the surplus capacity of key deficit links. That is, the government should commit to subsidizing unused excess capacity.** To do this, the government should identify instances of insufficient supply of components and parts experienced by large enterprises, and should maintain close communication with the enterprises to introduce favorable policies as they seek alternative solutions. **Preferential support should be given to two types of enterprises: those holding export orders and under fulfillment pressure, and those entwined in major global industry chains and supply chains that manufacture supporting products for foreign-funded enterprises.** Ensuring that these two types of enterprises are able to resume operations and fulfill their orders as scheduled is critical in maintaining the credit of Chinese enterprises. If Chinese export enterprises are able to continue fulfilling orders during the pandemic, this will strengthen the confidence of foreign partners in China's economic development in the long run. It will also

demonstrate the resilience of Chinese enterprises and reflect China's advantages in responding to a crisis. If this policy is carried out, **the safety of supply chains will be guaranteed to the utmost extent, which will prevent some Western countries from migrating their manufacturing businesses due to supply chain disruption.**

Challenge 4: The public may be anxious about the resumption of business.

In addition to promoting advances in medical treatment and drug development, the government should strengthen efforts to boost social morale. Although closely correlated with one another, these two aspects of recovery are governed by different rules. In terms of social morale, the public is currently focused on the number of new cases, the number of patients admitted to the ICU, the number of deaths, and the experiences of some individuals. With this in mind, we suggest that the related authorities disclose more specific data to help the public gain a more comprehensive, rational, and objective understanding of the virus. For example, the government should **publish more details about the mortality rates of patients based on age and health status. As the mortality rate is lower among young and middle-aged groups in good health, reporting related data may comfort many employees who have returned to work.** Meanwhile, the government should disclose the outcomes of some therapies and treatment plans based on scientific knowledge and data. It will soothe the public if they know that after receiving proper treatment, the mortality rate of patients without chronic diseases is comparable to that of influenza.

David Daokui Li, Founding President of ACCEPT, Tsinghua University

Li Keaobo, Executive Vice President of ACCEPT, Tsinghua University