The Impact of COVID-19 on Economic Development

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Abstract. On December 29, 2019, the first cluster of COVID-19 patients was reported from Wuhan, China. The COVID-19 epidemic has since affected China. This essay mostly compiles and evaluates web data as well as certain articles. This essay examines the effects of the new coronavirus outbreak on several businesses and government responses. In the meantime, this article uses China as its main example to examine how the Chinese government manages the pandemic and prevents recurrent and significant negative effects on the economy and public health. Wechat and Sina Weibo, among other social media platforms, have been crucial in spreading government information and advancing public welfare during the epidemic. Contact tracing and population movement patterns are made possible by technology. Medical staff have been efficiently mobilized by the Chinese central government. Population migration patterns and contact tracing are made possible by technology. Wuhan has benefited from the effective mobilization of medical professionals, supplies, and other resources by the Chinese central government. Fiscal initiatives, such as specialized loans, extended tax breaks, and reduced tax rates, have been used by both the federal and municipal governments to boost the economy. China's economy nevertheless suffered greatly, particularly during the blockade.

Keywords: COVID-19; manufacturing industry; tourism; education; Chinese policies.

1. Introduction

On December 27, 2019, China detected its first case of pneumonia of unknown origin. At the time, the virus was not known to be COVID-19, but the country took immediate emergency action. In the following months to one year even three years, the novel coronavirus had a great impact on society and national economy, many of which were irreversible, such as China's population base. In the case of China, the economic growth rate has fallen sharply due to the policies adopted. At the same time, the international economy is also very sluggish, many small and medium-sized enterprises can no longer operate due to the epidemic, and many countries even face bankruptcy and deficit. They had to use public debt and other means to prop up their economies, but still countries declared bankruptcy. After reading a lot of literature, the blank in China's economic field is education industry. The purpose of this study is to comprehensively summarize the impact of different aspects, to quickly find the following coping strategies for the "open" environment. Through the following three aspects, this article will analyze the positive and negative impacts on the manufacturing industry and the policies adopted by the government, the tourism service industry, the policies adopted by the government and the main impacts of the COVID-19 on the AI industry to discuss the impact of COVID-19 on China and even the world economy.

2. Literature Review

2.1. Key Impacts of COVID-19

The rapid spread of COVID-19 has had a significant influence on day-to-day living and the worldwide economy, resulting in reduced public transportation, stopped factories, restricted travel, and halted manufacturing. In addition, the COVID-19 will have a limited impact on the manufacturing sector's steady growth because of the extended Spring Festival break brought on by infectious sickness, the difficulty of returning to work after the holiday, and the spread of upstream and downstream industrial chains.

2.2. Major Economic Impacts

Due to COVID-19, global crises have erupted, including economic crises, terrorism and political instability. The economic crisis has been the most severe, affecting industries that rely on imports and exports, such as tourism services. Most tourism services provide services rather than products, which makes the industry vulnerable to external environmental influences. People can know from historical data the impact of a pandemic on tourism services. For instance, the hotel sector in Hong Kong was badly impacted by SARS in 2003, and over the Easter holidays, the average occupancy rate of Hong Kong Kowloon hotels fell to about 10% from 70–80% the year before [1].

3. Case Description

In December 2019, coronavirus 2 infection that causes severe acute respiratory syndrome was discovered in Wuhan City, Hubei Province, China. By Feb. 11, 2020, the World Health Organization (WHO) officially named the disease resulting from infection with SARS-CoV-2 as coronavirus disease 2019 (COVID-19) [2].

The most common clinical signs of COVID-19 are fever, dry cough and lethargy, and lung damage is typically seen. Because COVID-19 is highly infectious, most people are at risk of becoming infected. Today, diseased humans and their hosts, wildlife, are the primary vectors of disease. In addition, it can propagate through respiratory droplets and direct contact. After the outbreak, the Chinese government and the scientific community quickly identified the underlying cause, shared the sequence of the virus genome, and implemented pandemic containment measures.

4. Analysis on the Problems

4.1. The Impact on Manufacturing and the Government Policies

The initial impact of COVID-19 on the manufacturing supply chain is caused by the initial impact of two stages. The outbreak and spread of coronavirus. In the first stage, the production and trade were forced to halt, this leads to the shortage of raw materials and components which reduces the exports orders occurred mainly in February and March. The second stage is the supply and demand manufacturing supply chains are severely affected as the COVID-19 pandemic continues to spread around the world. Therefore, there are many small enterprises, small and medium-sized enterprises risk higher than any time bankruptcy. Economies and governments correct economic crises through market force and government policies. For example, people have designed management strategies on how to deal with economic crises, and many governments will correct economic crises through fiscal policy and supply strategy. The integrated stakeholder approach [3] was regarded as a thorough and affordable strategy for the tourist industry's rehabilitation following a crisis [4]. Due to the unique characteristics of this approach, early communication and effective marketing among key stakeholders have been demonstrated to be effective methods for minimizing the effects of infectious diseases on the industry. Some countries are also making considerable efforts to halt the risky spread of infectious diseases.

As a result, many countries have imposed strict measures such as mandatory national lockdowns in order to isolate cases and reduce transmission rates. Through this, government impose some policies, their aim is to to ensure the health of their people in order to avoid the further destruction. For example, lockdown and mandatory closures, due to many countries policies, those enable companies to respond quickly and strategically to unexpected challenges.

Due to disturbances in the global distribution of commodities, this not only limits local production and sales but also leads to factory closures and material shortages. Moreover, social isolation and the burden of remote employment are issues. Governments are taking into account the requirement for telecommuting in manufacturing enterprises in order to maintain social distance. These measures are widely used to prevent contagion and have a significant impact on consumer behavior and

consumption trends. These limitations occasionally force significant reorganizations of office and retail areas, as well as the urban fabric. In both indoor and outdoor settings, many nations now mandate physical separation and the use of masks. The best defenses against an outbreak of illnesses may be social isolation and the usage of face masks. Mandatory home quarantines for confirmed cases and anyone who has come into touch with an infected person are another precaution taken to stop the spread of infection. Also, because of COVID-19, the government mandates that employees perform internet work from their homes. Workers must learn how to work from home, remodel workplaces and manufacturing facilities, and get the right gear for telecommuting and video conferencing. In some circumstances, telecommuting lessens interpersonal communication and coordination's efficiency. Overall, a lot of work has gone into retraining skills to enable a smooth shift to remote work, which can occasionally be challenging. Notwithstanding these challenges, the majority of manufacturers concur that future processes will be revised to ensure that social isolation and distant working continue long after the pandemic has passed.

The dominating service industry has been significantly impacted by the COVID-19 epidemic overall. Consumer sectors have an impact on it, and it has some effects on labor-intensive manufacturing, as well as some upstream and downstream manufacturing industries, like the production of textiles and clothes, automobiles, and electronics. The epidemic has simultaneously opened up new development potential for the healthcare, information transmission, software, and IT sectors, among other service industries.

4.2. The Impact on Tourism Services and The Policies Adopted by The Government

As many as 96% of travel locations worldwide — on every continent — have implemented some kind of travel restrictions since the COVID-19 pandemic first appeared in the first quarter of 2020 in an effort to stop the virus' spread. Governments often impose significant limitations, such as whole or partial border closures, prohibitions that are destination-specific, and self-isolation for days (United Nations World Tourism Organization, 2020b). Several economic sectors have been hampered by these limitations, with the tourist and hospitality sectors being the most badly hit. In the first 10 months of 2020, international travel declined by 900 million passengers, amounting to a loss of $935 billion in export income globally, surpassing the losses of the global economic crisis in 2009. This is according to UNWTO (2020a) figures on the international travel sector [5]. The tourism and hospitality sector is anticipated to revive in the second half of 2021, although complete recovery is anticipated to take up to four years. The World Travel & Tourism Council (WTTC, 2020a) estimates that in 2018, the tourist services sector generated more than 319 million jobs, or 10% of all employment, and contributed 10.4% to the global GDP [6]. In terms of global trade, figures from the WTO on the balance of payments show that the sector contributed 6.5% to global exports and 27.2% to world commercial services exports in 2018, while accounting for 32% to developing nations' exports of services and 50% to LDCs [6]. For example, in China, the COVID-19 epidemic has created significant obstacles for the financial markets, tourism industry, and green economic recovery. Thus, utilizing newly available financial data from the COVID-19 era, this research explores difficulties in the tourism markets of three Chinese regions. This has a negative impact on all associated industries to tourism, regardless of where people reside. Earnings for the fishermen fell by 26%, while those for the captain and owner fell by 49%. In all research areas, the frequency and length of tourism excursions decreased during the epThe pandemic and economic uncertainty have had a major impact on global financial markets.

Much research on the COVID-19 pandemic's effects on the domestic and global financial markets were conducted, according to a survey of the literature on the economic effects of the pandemic [7]. In this part, the effects of COVID-19 on financial markets and green investments are discussed in accordance with past studies [8]. In addition to the income and livelihoods gained from coastal tourism, COVID-19 has the potential to upset China's whole economy. Small businesses in China involved in the coastal tourist industry have had a significant impact on their profits and way of life because to COVID-19. More COVID-19 knowledge among fishers is positively correlated with a rise

in the use of preventative measures across all study areas. Fish transportation was restricted due to COVID-19's preventative lockdowns, which led to a manpower shortage, decreased supply of fish and rice, and fluctuating tourism market prices. This has a negative impact on people's income regardless of where they live. Second, earnings in the tourism sector fell by 26%, while captain and owner profits fell by 49%. In all research areas, the frequency and length of tourism excursions decreased during the epidemic. Fishermen have received just a little amount of help from governments, non-governmental organizations, and the private sector. Yet it might also be detrimental to China's whole economy.

There are some suggestions of the policy, higher levels of literacy or education are associated to knowledge about China's tourist industry as it relates to consumers' preventive behavior. Thus, it is crucial to offer educational opportunities to those connected to the tourist business and their families. Better education is linked to greater comprehension and adherence to COVID-19 or other disease preventive strategies. Primary care whistleblowers can raise public awareness of safety issues and encourage safety because the majority of fishermen in the research region had limited access to local doctors. Local government organizations should monitor and advertise local health services to enhance the livelihoods of persons employed in the tourist industry. Instead of depending on conventional medications, those who work in the tourist sector should be encouraged and assisted to seek better medical care at regional government-run clinics and public hospitals. The majority of low-income fisherman do not have the appropriate safety equipment to shield themselves from a pandemic.

4.3. The Impact of AI on industry after COVID-19

The COVID-19 pandemic continues to have an influence on technology, markets, and energy usage. In light of the COVID-19 outbreak, this paragraph analyzes contemporary research to analyze the effects and applications of digital technology and artificial intelligence technologies on business and energy.

The development of distance learning, remote monitoring systems, and the transmission of health data from far-off locations have all been made possible by digital and Fourth Industrial Revolution technology. Artificial intelligence and machine vision-based video surveillance significantly decreased the amount of labor that hospital administrators and doctors had to accomplish in these life-or-death circumstances. Digital technologies provide ways to properly isolate infected patients to lower the high mortality risk, speed up medicine manufacture, treatment, and care, and prevent future outbreaks like COVID-19. Due to the COVID-19 outbreak and rising death rates, scientists around the world are looking for new technologies to screen infected patients at different stages, identify the best clinical trials, limit the spread of the virus, and more. According to recent studies, artificial intelligence and machine learning are more dependable, efficient, and promising than people in the healthcare industry. It should be highlighted that not all technologies are created with the intention of displacing people from the cycle of contacts in the medical field, but rather to help doctors make informed choices. Moreover, smartphone apps are helping to resolve the COVID-19 dilemma. For instance, Germany has developed a smartwatch-based tracking system that incorporates temperature and pulse. Many health bases get the collected data for further analysis. In a small-scale, experimental environment, this trait has been used to assess patients with coronavirus infection. Depending on the geography, people are divided into information assets. The wearer of the wristwatch may develop coronavirus illness as a result of modifications to the reference program, such as variations in pulse and temperature.

5. Policies

5.1. Introduce Health Code Software

The "Health Code" smartphone software classifies individuals into groups with varying degrees of risk of transmitting COVID-19 based on their health state, area of residence, prior trips, and prior

interactions. Traditional health exams can be made more effective by utilizing this technology. Nearly all public venues require an application for the "health code."

5.2. Get Information Through Technical Support

Employing big data to follow and exchange data on population migration. A function named "immigration monitor" has been added by Baidu Map, one of the biggest providers of navigation services, for tracking the number of people who commute between cities. From this data, the local CDCs received notifications. Tencent Maps and Baidu Maps have jointly developped the program "New Crown Epidemic Around You". Through real-time location identifiers, the program can identify outbreaks in its own community and neighbouring communities. Gaode map has released the function "metro passenger flow" in Peking. The feature, supported by the Beijing Transport Commission, provides real-time traffic statistics so that metro users can select metro lines or cars that are less congested.

5.3. Information Sharing Through Technical Support

Transmission of information using social media platforms like WeChat and Sina Weibo. WeChat (1.1 billion active users [10]) and SinaWeibo (0.47 billion active users [10]) are used frequently by the majority of Chinese people. Some websites, particularly WeChat, offer features for mobile payment in addition to facilitating communication and information sharing between users (individuals and public/private organizations). WeChat is one of China's major information platforms thanks to its enormous user base. The vast majority of public campaigns have been launched across both platforms. The government's official accounts on various websites were used to distribute the directives. With the use of NHC data, Baidu also produced a map of the COVID-19 epidemic that included daily updates on the epidemiological information for each province in China.

6. Conclusion

As a result, Wuhan and neighbouring regions have seen most of the spread of this outbreak. The cumulative number of cases of the disease, which exceeds 89,000, presented a serious public health risk in China. In January 2020 and March 2020, China took an increasing number of actions to address the outbreak. As a result, most of the spread of the pandemic took place in and around Wuhan. The Chinese central government has indeed sent medical resources to Wuhan, including doctors and other medical staff, medical supplies and other resources. China's pandemic response plan includes three key components.

Swift action and extremely strict procedures. During the start of the pandemic, the Chinese government was able to swiftly enact policies that had a large societal impact, and as the pandemic progressed, the government was able to make revisions to the orders with a fair amount of flexibility. The level of compliance with these procedures was very high. Since the breakout in January 2020, there have been no protests of the COVID-19 measures in China. This is primarily due to the government's aggressive social media efforts and advocacy initiatives. One of the keys to limiting the epidemic is compliance with the measures. This experience can be used by other nations to streamline the implementation of very strict regulations.

Use of tracking technologies is required without many limits. The introduction of tracing technologies has sparked intense disputes in western nations about privacy concerns. But, there weren't many discussions on privacy in China, at least not in the open. Life has a higher priority in Chinese society than privacy. This made it possible for required tracing to go down without a hitch. To evaluate the viability of such policies in light of historical experience, each nation must look at its particular political, societal, and cultural landscape.

Intensive use of medical resources to treat sickness. In theory, regardless of the disease's severity, every patient with a COVID-19 diagnosis is institutionalized. When compared to keeping patients with minimal symptoms in their homes, this is a waste of healthcare resources from a clinical

standpoint. Unfortunately, because of the housing situation of most urban places in China, house isolation is not practical. China may eventually need to think about a more affordable course of action.

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