

# **Pandemic Interventions and Policies in Different Countries: Experience and Suggestions**

**Chi Ki Tsoi\***

Department of Health and Human Science, Purdue University, IN, West Lafayette, USA

\*Corresponding author: ctsoi@purdue.edu

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**Abstract:** The world has faced many challenges since the start of the COVID-19 pandemic, and every country has provided unique solution to this virus that suit their own situation. However, experience on subjects such as detection of infected cases, and the allocation of medical resources can be generalized and passed from countries that have contain the virus, to countries that are still struggling to provide safety for their citizens. In order to visually observe successful cases when dealing with COVID-19 infections, several typical examples are analyzed in this paper.

## **1. Introduction**

The COVID-19 epidemic presents a trend of rapid global spread, bringing complex effects to the world's political economy and social stability [1]. Uncertainty risks brought about by the epidemic are accumulating [2]. The current epidemic is spreading towards developing countries, which may contribute to the "interactive" spread of the COVID-19 virus on a global scale, bringing serious disasters to human society. As the COVID-19 pneumonia epidemic is raging across the world, countries have taken active measurements to prevent the further spreading of the epidemic. In order to reduce and prevent the continued impact of the epidemic on the economy, many countries have successively introduced anti-epidemic policies, aiming to implement necessary rescue and compensation for various economic entities (including the public sector) damaged by the epidemic [3]. This article focuses on selecting the three economic systems most severely affected by the epidemic, the United States, the European Union, and China, and compares and analyzes their policies during the epidemic, and explores the characteristics and laws of policy implementation in the medical, vaccine, and fiscal fields. Finally, this article combines the actual needs of the current international prevention of the epidemic and resumption as well as control of work and production, and on the basis of drawing on international experience, proposes optimization suggestions for the policy measures of various countries.

## **2. U.S. policy against COVID-19**

### **2.1 General Policies Passed by the Government**

With the severe situation of the COVID-19 pneumonia epidemic, the United States has gradually upgraded its epidemic policy, covering more and more areas and increasing measures. The U.S. state government assumes the main responsibility in the field of public health in each state. The state government implements the disease prevention and control regulations authorized by the local legislature and the local health and public safety legislation approved by the Congress [4]. When responding to public health emergencies, the public health departments of every state in the United States need to report their findings on infectious diseases to the state legislature in a timely manner. After receiving policy recommendations that must be quarantined, the state legislature issued a quarantine order, and local health department officials quickly expanded their powers and implemented large-scale epidemic prevention inspections. The quarantine procedures, location of quarantine, mandatory method, and necessity of quarantine are at the discretion of each state. Some

states further delegate power to local governments, and the local governments implement specific regulations [5]. The epidemic prevention authority of state and local health departments generally includes: initiate quarantine and quarantine within its territory, enforce public health orders in accordance with local regulations, undertake the tasks of local treatment and trace close contacts, and also need to undertake public services such as investigating infectious diseases, coordinating control, and providing public information [5].

## **2.2 Vaccine Development**

Secondly, the United States has increased its investment in vaccine research and development. The United States launched the "Action Curvature Speed" plan in April. This plan was initiated by Peter Marks, director of the Center for Biologics Evaluation and Research of the US Food and Drug Administration (FDA), and spent more than \$12.3 billion to convene major biopharmaceutical giants, government agencies, and the military. This plan accelerates the development of vaccines by testing multiple different candidate vaccines at the same time, and strives to deliver 300 million doses of certified vaccines by January 2021 [5]. In response to vaccine policies, the United States has implemented a legal framework to lay the groundwork. This is the most prominent feature of the U.S. epidemic policy, and it also means that all vaccine measures taken under this framework are fundamentally different from ordinary government orders and ministries' guidance documents, and have become a "hard constraint" for the division of labor and cooperation between relevant functional departments [6].

## **2.3 Target Population**

In addition, small and medium (micro) enterprises and households are the main targets of rescue. In the "COVID-19 Aid, Relief and Economic Security Act" (referred to as the "CARES Act"), for credit support tools such as the Fed's "Small and Micro Enterprise Pay Protection Program (PPP)", it is clearly stipulated that if companies use these loans to pay wages, the loans will not need to be repaid. This kind of rescue becomes a direct financial appropriation, that is, the federal finances cover the risk of credit assets within the limit [7]. In terms of finances, the role of U.S. policy and the policy operation that influence the U.S. government and the Federal Reserve to jointly implement bailouts, in the short term, the most direct effect is the immediate effect of supplementing the liquidity of the financial market and the guidance of public expectations, winning an important window for the next stage of policy intervention in the real economy [7]. In the medium and long term, the impact will be twofold: on the one hand, changes in the debt leverage structure of the US national economy. Through government debt to provide tax relief, financial subsidies, guarantee credit enhancement and other practices for the real economy, the balance sheets of enterprises and households have improved in the short term, and the risk of leverage in the economy has shifted from the private sector to the government sector [8]. On the other hand, these policies have changed the independence of monetary policy. The Federal Reserve's large-scale monetary acceptance of government debt has deeply tied monetary expansion and fiscal expansion, and even moved toward fiscal monetization, thereby weakening the independence of monetary policy and the international credit of the U.S. dollar, laying hidden dangers for the depreciation of the U.S. dollar exchange rate in the later stages of the epidemic [6].

## **3. EU Policies Against COVID-19**

### **3.1 The Smaller Pressure Done by the Virus**

Compared with the United States, the EU's epidemic policy was introduced late, less frequently, and smaller in scale. This is related to the EU's decision-making mechanism and the cost of communication and coordination among its members. Coordination of epidemic prevention and control measures in most European countries is difficult and requires a three-level coordination mechanism of local, national, and EU levels, which greatly reduces the difficulty and degree of implementation of epidemic prevention measures [9]. For example, Belgium has the strictest policy

for wearing masks, but Belgians who cross the border and shop in Maastricht, the Netherlands, can take off their masks [9]. Even within a country, epidemic prevention measures sometimes change at an alarming rate. The Spanish government declared the capital Madrid and the Autonomous Region of Madrid into a state of emergency, requiring nine cities and towns including Madrid to return to quarantine and prohibit entry and exit from blocked cities and towns except for legitimate reasons such as work, study, and medical treatment. The government will use the police to control the entrances and exits of the blocked cities and towns, and offenders will face fines and other penalties [9]. The British government has launched a "three-level epidemic alert system", according to the severity of the epidemic, divided the various regions of the UK into three levels of medium risk, high risk and very high risk, and ordered the closure of bars and pubs in the extremely high risk area of Liverpool. The Italian government has tightened the epidemic prevention measures again, including mandatory wearing masks and monitoring body temperature in outdoor and public places, companies open to the public must provide customers with disinfectant gels, etc., and continue to extend the state of emergency [10]. French President Macron announced that it will impose a curfew of at least four weeks in Paris and eight other cities. The curfew will prohibit people from going to restaurants and private homes at night and at night [10]. Violators will be fined. At the same time, Germany announced that in areas with more than 50 infected people, bars and restaurants must be closed by 23:00. In addition, the Czech government ordered the closure of swimming pools, fitness rooms and other sports venues and all cultural venues for two weeks [11]. The Netherlands has strengthened the beds in hospitals and intensive care units, requiring people to wear masks in public places; Poland stipulates that masks must be worn outdoors, and celebrations can be attended by up to 75 people [11]. The Romanian government decided to extend the state of alert for the prevention and control of the COVID-19 epidemic for another month [11]. From these COVID-19 epidemic prevention and control measures, it can be seen that there is no country in Europe that requires a complete blockade and quarantine. "Pandemic fatigue" is an inevitable phenomenon in Europe's protracted fight against the epidemic [11]. At present, it is difficult for all aspects of Europe to implement comprehensive and strict blockade and isolation measures. The measures adopted by many countries this time are more lenient than the first wave of the epidemic, because the economic cost to be paid is too great. "Although the second wave of the epidemic is fierce, it is expected by European countries." In view of the experience of the first wave of epidemic response, currently, European countries have not run on medical resources. At the same time, people's "fear" of the virus is not as strong as in spring. "With the continuous accumulation of anti-epidemic experience, the current mortality rate and ICU occupancy rate are still maintained at a low level, so this relatively loose epidemic prevention policy also meets the expectations of the people" [12].

### **3.2 EU Vaccine Risk Crisis**

However, with the rebound of the epidemic, the EU vaccine risk crisis has become increasingly serious. Although Italy, France, Germany, the Netherlands and other countries have also established the European Vaccine Alliance for the acceleration of the development of COVID-19 vaccines in Europe to ensure that EU countries have priority access towards supplies of vaccine. However, so far, the European Medicines Agency (EMA) only approved COVID-19 vaccines from four pharmaceutical companies. In addition to AstraZeneca, which is prone to thromboembolic events, it also includes the American Moderna vaccine, Johnson & Johnson vaccine, and the US-German joint Pfizer vaccine. In contrast, AstraZeneca vaccines are low cost, easy to store, and large in output, and are favored by the European Union [13]. The suspension of the AstraZeneca vaccine in many countries has triggered another problem in the European vaccine crisis. The EU's own vaccines are very limited, and the AstraZeneca vaccine has a high risk. How to deal with the supply of COVID-19 vaccine [13].

### **3.3 Financial dilemma**

Under the influence of the epidemic, the EU's fiscal policy and monetary policy echoed each other. By expanding the scale of debt purchases, the European Central Bank has provided financial guarantee for the budgetary expenditures of the European Commission and its member states. The financial

sector provides guarantees for corporate credit by increasing budgetary expenditures (up to 100%), and carries out risk relief for the European Central Bank's refinancing operations [13].

## **4. China's policies against COVID-19**

### **4.1 Quick responses done by the Chinese government**

In this global anti-epidemic practice, China's national defense epidemic is an overall national project. Since the detection of cases in Wuhan early last year, the central government has attached great importance to it and soon established a national leading group to adopt a comprehensive blockade and quarantine to control the epidemic, so that the epidemic in Wuhan was quickly brought under control [14]. Under the call of the policy, medical personnel flew to help, and tens of thousands of white-clothed soldiers from all over the country gathered in Jiangcheng, ordering prohibitions, and government orders were well understood. In addition, the special national conditions and special history have made China a very tight organization system [14]. Various measures such as: case detection, epidemic investigation, trajectory tracking, close isolation, closed-loop management, guard security, non-staple food supply, communication, hygiene monitoring, situation handling, etc., everything is as familiar as an assembly line, and everything can be operated according to procedures [15]. The Chinese people are highly cooperative in the prevention and control of COVID-19. Wearing a mask when going out, washing hands when going home, and avoiding gathering when going out have become the "three basic rules" that women and children know [15-16].

### **4.2 Chinese Data Sharing System**

China has built two platforms, the "Global Coronavirus Data Sharing and Analysis System" and the "2019 Novel Coronavirus Resource Library", to dynamically update and share epidemic data with the world in real time. The China-World Health Organization COVID-19 pneumonia joint expert investigation team will promptly announce the on-site investigations and inspections [15]. After the outbreak of the international epidemic, the international community gave China strong support. When other countries faced pressure on epidemic prevention and control, China provided emergency medical supplies to the international community and shared its experience in fighting the epidemic. This reflects the benign interaction of sovereign states in the field of global governance, and has become a practical action to establish and deepen the global partnership in public health [16]. China has donated anti-epidemic materials, testing reagents, and diagnosis and treatment equipment to many countries, and facilitated foreign commercial procurement in China; it has dispatched medical expert teams to Iraq, Iran, Serbia, Italy, Cambodia and other countries. In addition, China shares with the international community the basic characteristics and testing of the COVID-19 pneumonia virus, clinical treatment experience, protective measures for medical staff, clinical drug trials, and vaccine drug development progress [17]. China has worked closely with international organizations such as the European Union, ASEAN, the African Union, the CARICOM, the Shanghai Cooperation Organization, and the South Pacific Islands to share and exchange the COVID-19 diagnosis and treatment plans and prevention and control plans that have been translated into multiple languages with countries around the world [18].

## **5. Global policy trends against COVID-19**

The international implications of the COVID-19 outbreak are complex and far-reaching. The global impact of COVID-19 continues to deepen, and the international community faces its greatest challenge since the end of World War II. The unprecedented COVID-19 pandemic has profoundly demonstrated the world's closeness and vulnerability [19]. The conflict between the reality of global cooperation and joint response to the crisis and the lack of global governance capacity, institutions and resources has become more prominent in this epidemic. The epidemic has a complex and far-reaching impact on the international community, leading first to a global economic recession [20]. The latest forecast of the International Monetary Fund in April 2020 shows that affected by the epidemic, global economic

growth in 2020 is expected to shrink by 3%, which is more serious than the situation during the 2008-2009 financial crisis. In response to the epidemic, developed countries represented by the United States have adopted unprecedented economic stimulus policies, pushing monetary and fiscal policies to the limit, but it is still difficult to effectively curb the trend of economic recession [21]. Moreover, given that developed economies such as Europe, America and Japan have entered the era of negative interest rates, their ultra-loose monetary policies in response to the economic downturn may lead to competitive currency devaluations [22,20,23]. The disruption of the global supply chain caused by the epidemic will also have a greater negative impact, which may strengthen countries' awareness of the potential risks of the global supply chain, and accelerate the localization of the supply chain. Countries will increasingly favor industrial policies with a low degree of external dependence, although this policy trend will increase unnecessary economic, social and even political costs. For example, the "decoupling" of the United States and China has shown a further upward trend during the epidemic prevention and control period [24].

## 6. Conclusion

The COVID-19 pneumonia epidemic has crossed geographical boundaries and has become a common threat facing human society, challenging the domestic governance capabilities of countries and boosting global public health cooperation [25]. In the era of globalization, international flows have brought countries closely connected and shared weal and woe. Responding to major public health events such as COVID-19 requires the collective wisdom and cooperation of mankind. The global response to the epidemic is a practice and interpretation of the vision of a community with a shared future for mankind. The COVID-19 pandemic has given the international community a deeper understanding of the interdependence of countries through thick and thin [25]. The international cooperation needed to fight the pandemic is not based solely on international ethics. The rapid spread of the epidemic means that helping others is also protecting ourselves. Developed countries in Europe and the US still face severe challenges in dealing with the epidemic, not to mention developing countries in Asia, Africa and Latin America and countries still at war such as Syria [26]. Therefore, if international cooperation in epidemic prevention and control is not effective, "interactive" infection of the virus will be inevitable in the future. Even in order to maintain collective security, strengthen global cooperation and build a common security foundation for human society, it is also an urgent and practical need [2]. Against the backdrop of the global spread of COVID-19, it is important to enhance a sense of responsibility in global governance. The epidemic transcends national boundaries and ethnic groups and is a common challenge to human society.

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