

# Stylized Facts of the Novel Coronavirus Shock and Policy Response<sup>1</sup>

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**Abstract:** The novel coronavirus outbreak is far from over worldwide, so our current task is not to conclude or reflect on it. Rather, we should draw on past experiences and theories to provide reference to our policy response. This article summarizes several stylized facts about the impact of the pandemic and its countermeasures: 1) there is no policy overreaction; 2) macroeconomic policy instruments should be chosen based on the nature of the shocks; 3) not everyone is equal in the face of the shocks; 4) fiscal policy should play a central role in macro control; and 5) the path of economic recovery is dependent on the epidemiological curves.

Economists always say to never waste an economic crisis. It means that if we fail to absorb lessons from various economic recessions and crises, no matter what cause them and how severe they end up to be, the damages they bring to a country's economy and its people, large or small, will be suffered in vain. Economists are also interested in comparing a current crisis with previous ones. In fact, history has shown repeatedly that each economic crisis has both its own unique features and lots in common with others, and brings different misfortune to different countries, societies and individuals.

There are many economic disasters caused by economic recessions, financial crises and pandemics throughout the economic history. These events have also become long-lasting hot topics for economic theories and policies and, to some extent, are regarded as the incubator or catalyst of economic theory innovation. The novel coronavirus

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outbreak is far from over worldwide, so our current task is not to conclude or reflect on it. Rather, we could draw on past experiences, lessons and related theories, and think about the similarities and differences among different shock events, focusing on their referential significance to the policy response to the COVID-19 crisis.

### **I. There is no overreaction for policy response**

In the face of major shocks, a timely macroeconomic response is very important. According to historical experience, policy response leans toward conservative stances in most cases, and often appears to be passive in keeping with real needs. So in hindsight, **there is no so-called "overreaction" in any policy response. In particular, in the face of a highly mutable virus and an unpredictable pandemic, a timely policy response is of great importance to eliminate the combined effects of uncertainties in event evolution and policy orientation that can double market panic.**

In Keynes's view, decisions about economic activity often come from the impulsiveness of the actors themselves, rather than always from the prediction of the expected mean, and therefore the weakness of human nature will lead to economic and market instabilities. Such impulsiveness, or "animal spirits", is bound to show the characteristic of irrationality in individual economic decision-making, which is both in and against logic. We can also understand this characteristic of economic activity from another angle, that is, **economic shock can manifest as either the decrease of expected mean or the increase of its variance.**

The decrease of the expected mean usually manifests as the withdrawal of investors, the decrease of investment and the decline of output, which are mainly responses to rising risks. The increase of variance is reflected in the fluctuation of output and the part of wide fluctuations in the capital and bulk commodity market caused by uncertain factors. Since it is an investment activity driven by animal spirits, there are naturally overvaluation or bubbles in its normal state. When faced with a sudden increase of risk

and uncertainty, people will interpret the information available to them, leading to the formation of so-called circulated narratives, to which they will react accordingly.

At this point, even without delving into whether such reaction is a rational market adjustment, irrational psychological panic, an inappropriate response to distorted information or the wrong interpretation of uncertain information, it will eventually bring unbearable chaos to the market and the economy. The difference between risk and uncertainty is that the former can be reflected by specific information, so the market's response to it is predictable, at least in theory, while **the essence of the latter is that information is not sufficient, unavailable or even distorted, so the market response to it is unpredictable.**

The market's response to the unpredictability of the novel coronavirus outbreak was best reflected in the triggering of the circuit breaker for four times in the U.S. stock market on March 9, 12, 16 and 18, 2020, which became the worst stock market crash since the "Black Monday" on October 19, 1987 (when the circuit breaker had not yet been created), and the first circuit breaker on October 27, 1997 after the mechanism was established. America's macroeconomic policy reacted with big moves, not just out of concern for votes, or not knowing that cutting interest rates might be a wrong policy response, but to prevent panic and the resulting large market swings. **It should be said that in order to avoid panic and the resulting sharp decline in the real economy and the impact on people's livelihood, it is still necessary for a prompt and vigorous policy response, even when it might not precisely suit the case.**

## **II. Choosing macro policy tools based on the nature of shocks**

**The economic shock caused by the novel coronavirus outbreak is twofold, that is, the shock affects the real economy from both the demand and the supply sides, consecutively or simultaneously,** which is reflected correspondingly in financial and commodity markets. Although market conditions are determined by the balance

between demand and supply, generally speaking, in a market economy, short-term shocks come from the demand side, whereas supply-side factors mainly affect longer-term economic growth.

As a theoretical and policy source of counter-cyclical adjustment, macroeconomics, especially the cyclical theory, was born to solve the demand-side shock. Accordingly, the weapons in the toolbox of macroeconomic policy are also designed for such a purpose. Although countries' economic histories have witnessed supply-side shocks, such as the oil shocks of the 1970s and various natural disaster shocks, **in general, economic policies are inexperienced in dealing with supply-side shocks and often have limited options.**

From the very beginning, the economic impact of the novel coronavirus outbreak in China manifested as the interweaving of the demand- and supply- side shocks. In order to strictly implement measures such as social distancing, city closure and isolation, consumption activities related to the movement and gathering of people, such as accommodation, catering, tourism, entertainment, and passenger transport are fatally restricted, while production and operation related to these areas are also disrupted. As China was hit by the first wave of the outbreak, supply-side arrangements such as shutting down production has led to the delay and even disruptions of the supplies to the producers of many other countries.

When domestic epidemic situation gets better and the gradual resumption of work and production is expected to improve the supply situation, it is not only difficult to repair the supply chain broken during the economic shutdown, the shutdown and contraction of the manufacturing industry in other countries caused by the global spread of the epidemic has triggered a new round of demand side shock for Chinese producers. The shocks are superimposed, and the consequences are very severe. Therefore, **the implementation of policy must be extremely strong, not only making full use of the traditional policy toolkit, but also innovating traditional thinking and paths, so as**

**to improve policy effects.**

### **III. Everyone is not equal in the outbreak**

The novel coronavirus does not discriminate against any life, but the availability of immunization, treatment, recovery opportunities, as well as the extent of and resilience to the economic impact of the outbreak vary between rich and poor countries, and among groups of different income levels.

Reviewing the history of pandemics and human responses, the Nobel prize-winning economist Angus Deaton points out that the technology used to prevent and treat pandemics often spread down the social ranks. For him, who exposed the phenomenon of "death of despair" in America, all men are not equal in the eyes of a virus.

It is true that in modern society, the universality and accessibility of medical technology are greatly increased, and whether billionaires and political elites in the developed countries, or informal workers in developing countries struggling on the poverty line, have equal chance of getting infected by the novel coronavirus and will have to pay equal health and life costs. However, there is no doubt that there are huge differences between countries and social groups in terms of whether they have the opportunity to avoid infection, whether treatment can be obtained once infected, whether they can benefit from the vaccine in time once available, and especially the nature and extent of the impact of the epidemic.

**Whatever the cause of an economic crisis, the impact on people should not be measured by its quantitative magnitude, but by its nature.** A financial crisis, for example, could cause trillions of dollars in losses to the financial sector and the unemployment of many minimum-wage earners as it ripples through the real economy. At individual level, the amount of losses suffered by bankers and workers are not the same: in the former case, bankers' losses belong to the owner of capital while investors

are faced with the losses in capital gains; but in the latter case, what the workers lose is their basic livelihoods.

Therefore, in the outbreak of the novel coronavirus, low-income countries and groups face a greater chance to bear the brunt and their lives and health face more threats because they do not have sound medical care conditions. Thus, when the pandemic is in full swing with city closure and isolation measures leading to economic shutdown, vulnerable countries will lack sufficient resources and finance to conduct necessary detection and treatment, and to safeguard residents' basic life; ordinary workers are more likely to lose their jobs and income, facing livelihood difficulties while being exposed to health risks. However, **when the economy starts to recover, just as economic growth does not have a trickle-down effect on income distribution, the lives of ordinary workers do not automatically return to normal as the economy as a whole goes back on track**

#### **IV. Fiscal policy plays a leading role in macroeconomic regulation**

While monetary and fiscal policies need to work together, the latter should play a more important role due to its characteristics of being more targeted and directly effective. The relationship between the two macroeconomic policy toolkits has been a long-discussed topic of macroeconomics, and in recent years, the discussion reached a new climax. Some of the research developments and associated policy suggestions have also appeared in the campaign propositions of presidential candidates in the U.S.

The debate over whether the cause of long-term stagnation comes from the supply or the demand side shows that people have unconsciously formed a consensus that monetary policy alone cannot shoulder the responsibility to stimulate economic growth; furthermore, because developed countries have remained in a low or even negative interest rate environment and implemented quantitative easing policies for a long time, in the face of economic shocks, the monetary policy toolkit becomes insufficient and

the room for macroeconomic adjustment is severely limited. As a result, many believe that fiscal policy should be more used, but there is no consensus on the choice of policy tools.

Facing the particular shock of the novel coronavirus outbreak, people might put aside differences of opinions to achieve more policy consensus. In an emergency state such as of war and disaster, it is government's natural responsibility to provide subsidies to residents, bailouts for small and medium-sized enterprises, and basic social insurance payments which are beyond the means of individuals and the private economy but are necessary expenditures to maintain national security, support national economy and guarantee the livelihood of the people. At the same time, in this special difficult time, even normal government revenue can hardly meet the needs of additional large-scale expenditure, which needs to be solved by either increasing the deficit ratio of government budget or issuing more government debt according to the characteristics of government's fiscal structure and the nature of expenditure.

It can be seen that while monetary and fiscal policies together can generate synergistic effect, fiscal policy now tends to play the leading role, with monetary policy playing a supporting role for the implementation of fiscal policy. Forced shutdowns in the face of the pandemic first results in unemployment and underemployment, and further leads to loss or depletion of residents' income which threatens the basic livelihoods of low-income families. Even when production is conditionally or fully restored, disrupted supply chains will take time to get repaired, and could be further disrupted in a worldwide pandemic. Therefore, **large-scale fiscal expenditure used to ensure social insurance payments and social rescue is far more important and targeted than ensuring sufficient liquidity in the financial sector.**

Even the incumbent and former central bankers in fact acknowledge that monetary policy should play more of a supporting role in the pandemic. For example, two former Fed chairmen, Ben Bernanke and Janet Yellen, argued in a joint essay that the role of

monetary policy at this time was to meet the following needs: first, the additional demand for liquidity under conditions of home quarantine and electronic transactions; second, in the current unusual period, lenders need extra confidence to provide loans; third, whether in the recovery period after the short-term outbreak or in a prolonged pandemic that strains businesses and households, credit needs to be readily available. In addition, monetary policy should also take on the role of monetary financing, which they did not mention.

It can be seen that fiscal policy which is more targeted in response to the economic impact of the pandemic, is expected to effectively help companies and families tide over the difficult period and should play a central role in macroeconomic control. In the meantime, monetary policy should play a supporting role, focusing on helping governments raise capital and ensuring that the conduct of these bailout and rescue policies is not constrained by insufficient liquidity.

## **V. The epidemiological curve determines the trajectory of economic recovery**

The characteristics and direction of the evolution of the novel coronavirus outbreak determine the timing, feature, path and results of economic recovery. Thus, it is necessary to choose the right timing to roll out policies according to the progress and sequence of events and the types and characteristics of the macro policies. In the early stage of the outbreak, the inverted v-shaped epi curve rises before reaching the peak. In order to control the spread of the virus, the most important task is to implement strict prevention and control measures, including city closure, isolation, and the cancelling of gathering activities, which would inevitably lead to the reduction or even the stop of economic activities. Entering the downward side of the curve after passing the peak, as the spread of the epidemic is contained, the recovery of the economy becomes the priority. **Similarly, macroeconomic and other policy instruments will also be affected by this feature, so it is necessary to choose the right timing to launch policies, otherwise the expected results may not be achieved.**

For example, policies designed to stimulate household consumption, especially to encourage compensatory consumption, can hardly achieve desired effect when the society is still in quarantine period; **monetary policy aimed at maintaining necessary and sufficient liquidity may be required at each stage, but it should be compatible with the main policy objectives at each point in time, rather than becoming an separate objective itself**; macroeconomic policies designed to revive and stimulate investment shall not be implemented during nationwide quarantine before the economic activities begin to resume; **the social bailout policies to guarantee the basic livelihood of residents should be in place in various forms throughout the development of the epidemic and the economic shocks that follow.**

Epidemic prevention and control and the recovery of economic activities are both hard requirements, and the trade-off and dilemma between them must be dealt with scientifically. Although the novel coronavirus has a low mortality rate, it is also such a characteristic that allows the virus to circulate rapidly and eventually brings loss to life and health due to the large amount of infected cases. Therefore, it is inevitable to mobilize the whole society to implement strict prevention and control measures. By doing so, China is undoubtedly contributing to the global efforts of containing the virus. Meanwhile, it is also an indisputable fact that resuming work and production as soon as possible is the top priority when the outbreak is generally put under control. However, there is indeed a trade-off between the two issues which is hard to balance.

The result of the implementation of closure of Wuhan and various nationwide isolation measures shows that the dual-track transitional approach is a successful experience: it separates time and space, and trade the former for the latter, allowing local governments to identify whether the priority should be the prevention and control of the virus or the resumption of work and production based on the phased characteristics of the epidemic in different regions. Without the prevention and control efforts of the previous stage, it would have been impossible to accelerate economic recovery in the latter stage on the

condition that the number of infected cases does not rebound.

Considering the fact that the inverted V-shaped epi curve is still on the upward slope in other countries, countries including China may experience a W-shaped economic recovery process, and the human society is likely to coexist with this virus for a very long time. **China can improve its dual-track anti-virus approach which separates time and space into one that unifies the two, based on China's successful experience in dealing with the outbreak and the challenges that it has overcome.**

**This updated approach includes the following key steps.** First, get the susceptible population fully tested, so that the tested population can be divided into the safe group and the risky group. Second, let the safe group immediately resume work while ensuring that cross-infection between two groups does not happen and continuing the isolation and screening of the risk group. Third, with the expansion of the coverage of detection and treatment, the number of population in the safe group will gradually increase and the number of population in the risky group will be correspondingly reduced, thereby allow the dual-track approach to shift to a safe one-track approach. By adopting such a transitional approach, the time gap between the prevention and control of the virus and the resumption of work and production can be minimized.

The pandemic and its impact on the global economy bear many similarities to historical pandemics, recessions and crises. For example, the uncertainty of the pandemic itself and the inadequacy of information which lead to market shocks and faltering economic recovery are familiar scenarios in economic history. Nevertheless, the novel coronavirus is also unique in many ways. In addition to the unique characteristics of the evolution and the transmission mode of the virus itself, some factors have also brought unprecedented challenges for China and the world in coping with the economic impact of the novel coronavirus, such as the large proportion of Chinese economy in world economy and its contribution to global economic growth, the central position of China's manufacturing industry in the global supply chain, the transformation of

China's economic growth momentum, and the anti-globalization undercurrent which has been pushed to a new climax when the world has reached a higher level of globalization.

In addition, the outbreak and its economic impact have exposed a series of challenging problems in the public health emergency response system, the coordination among countries in the context of globalization, the emergency material reserve system, the maintenance and repair of the supply chain and so on, which tend to be ignored under normal conditions. This is why economists need to think more deeply and come up with solutions to various problems while taking precautions for the future.