## Face up to "Black swan" incidents, and beware of "ripple effects" in supply chain

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The global spread of COVID-19 is a sudden "black swan" incident. The epidemic not only disrupt People's Daily lives, it also disrupted the existing supply chain. At the Extraordinary G20 Leaders'Summit on COVID-19 held on March 26, all parties jointly call for the security and stability of global supply chain.

We must recognise that the intensity of the supply chain is often determined by its weakest link. Supply chain interruption may occur when a link to the supply chain fails due to an emergency, and the phenomenon of such interruption transmitting its impact is the "ripple effect". It can lead to the collapse of nodes or links to the supply network, changing the structure of the supply chain and even the whole ecosystem, causing serious and even devastating effects on the global economy.

The COVID-19 outbreak had nearly shut down the Chinese economy for a while, the impact on the supply chain is comprehensive, including raw materials or finished goods supply shortages, labor shortage which is caused by the epidemic prevention and control, travel restrictions have affected procurement operations, logistics capability has been limited and the change of the consumer purchasing behavior and so on. According to the data onto National Bureau of Statistics of China, in the first two months of 2020, the total profit of Chinese industrial enterprises above designated size reached 410.7 billion yuan, down 38.3% year on year. Retail sales of consumer goods totaled 5213 billion yuan, down 20.5% year on year.

However, we have also seen many comforting signs in the outbreak. On March 9, Gree Electric Appliances Inc. began selling the KN95 masks and surgical masks produced by themselves, although it has been less than half a month since they announced a shift in production lines to focus on products related to epidemic prevention; SGMW independently produced a fully automatic mask machine in only 76 hours; Midea Group "vacates" the water purifier production workshop and starts many sets of self-purchased mask production lines; SINOPEC has set up a factory in 12 days to make melt-spraying cloth for masks, and another eight production lines are expected to be completed and put into operation in mid-april... Whether it is stable production and supply or transfer production of epidemic prevention materials, all reflect China's manufacturing strong production capacity, complete supporting capacity and efficient response capacity.

In terms of logistics and transport, the priority to some goods related to epidemic prevention materials and people's livelihood has been improved, and the irrelevant distribution has been reduced. In just over half a month since January 27, solstice on February 13, the total sales volume of JD Daojia platform increased by 450%, grain, oil and non-staple food increased by 540%, meat increased by 1080%, leisure food increased by 420%, vegetables increased by 800%, and fruit increased by 350%. During the outbreak, due to the implementation of measures such as travel restrictions, the pressure on the express delivery industry has exploded, and the original retail pattern was broken. A number of new industries, new business form and new models, including online consumption, unmanned delivery, free application, medical and health care, and shared business forms, have been developing. This is essentially the embodiment of supply chain intensification.

During the outbreak, China constructed the Fire God Mountain hospital and

Thunder God Mountain hospital, and many makeshift hospitals. In severe cases, with a 10-day countdown to the all-day super supply chain instantaneous start, the builders race against the epidemic with Chinese speed. This is the strength of the "made in China", also is the power of "supply chain of China".

Regarding the resumption of production and work, the People's Bank of China and other five departments require that relevant industries and enterprises with development prospects but temporary difficulties, especially small and micro enterprises, should not blindly withdraw, cut off or suppress loans. The ministry of finance has increased support to individuals and enterprises affected by the epidemic to provide discount interest on start-up guaranteed loans; The ministry of industry and information technology has sorted out more than 7,000 small and medium-sized enterprises that are core supporting enterprises for the global industrial chain, and provided accurate assistance to meet the actual difficulties. Foxconn alone has coordinated and mobilized resources in nearly 20 provinces and pushed more than 60 cores supporting enterprises to resume production.

The resilience and self restoring of the supply chain were brought into play during the outbreak. From the perspective of manufacturing itself, China is the only country in the world that produces all kinds of products of 39 categories, 191 subcategories and 525 subcategories classified by the United Nations. From stopping work and production to shortages of some goods, the damage to the supply chain is enormous, even though China is part of the world's great supply chain, but itself is a complete one. China has a full range of manufacturing industries and sufficient production capacity. During the outbreak of the epidemic, the supply chain quickly adjusted itself and completed production, transportation, storage and distribution in a sustained and efficient manner. To a certain extent, if the Chinese supply chain is stable,

the global supply chain will be stable.

China is a major trading partner of more than 130 countries and regions, the largest exporter of more than 30 countries and the largest importer of more than 60 countries. Given the frequent occurrence of black swans incident, how can China's supply chain copes with the "ripple effect" and enhance the "immunity" of the economy?

The first step is to secure the chain. In supply chain is to suppliers, manufacturers, wholesalers, retailers and users each subject, for information flow, logistics and cash flow and other services, increase the intensity of business environment optimization, combined with the ability to resist disease promotion to introduce China's efficient safety management, have interview with companies to help them return to work and production, to stabilize the existing supply chain. We encourage enterprises to strengthen communication and coordination with the original global upstream and downstream supply chain enterprises, make every effort to overcome the shortage of supply of related commodities caused by the temporary closure of enterprises caused by the epidemic, and change the logistics mode for the tension caused by the suspension of flights and other logistics reasons. If the contract cannot be performed due to force majeure, the enterprise shall be encouraged to negotiate amicably and find the largest common divisor between the two parties.

The second is to mend the chain. Step up the efforts to attract investment, promptly repair the weak links and exposed weaknesses for the supply chain, which are most affected by the epidemic; prepare some "spare tire", in other words, attract more investment of new manufacturing enterprises, introduce new suppliers, and make up for the chain shortage caused by capacity or order transfer of some enterprises. The spread of the virus inevitably causes a major

impact on the production or demand and even transport of some local production enterprises, which further exposes the unsafe and unstable links of the supply chain. Enterprises should be encouraged to improve and optimize the supply chain and industrial chain in a targeted way. Such as how logistics distribution can do better for dealing with some of the negative factors such as flight ban. Some enterprises can't maintain the spare parts supply, therefore, to enhance the elasticity of supplier management, set up safety stock of raw materials and intermediates, steadily push forward the diversification of supply chain relationship, develop two or more supplier for the same production, establish a new supply partners in a timely manner, develop new logistics channel, hedge and prevent the risk of broken chain, the enhancement enterprise industry development room for manoeuvre.

Third, to create a chain, that is, to create a new supply chain. In recent years, some multinational enterprises have been implementing measures to disperse supply chain risks due to factors such as trade friction and rising to labor costs, the outbreak of COVID-19 may accelerate the pace of supply chain adjustment, or even cause some multinational companies to completely change the original supply chain. Therefore, it needs to step up industrial chain innovation, transformation and upgrading, build new industrial clusters based on industrial parks and pilot free trade zones, expand new diversified markets and distribution channels, and lay out a new supply chain pattern.

The factors related to the supply chain are mutually reinforcing and complementary, which played a great role of the epidemic outbreak of China and laid a good foundation for the alleviation of the epidemic of China. Certainly, many of the measures are related to China's national conditions, culture and system, and it may be neither effective nor meaningful to copy them completely. However, as a country that has experienced the most severe and worst COVID-19 transmission in the world, some of China's experience is

bound to inspire other countries.

Wish there are no more diseases in the world.

Wish our fellow human beings greater happiness and health.