

Just when the year 2019 ended with some positive good news that the escalating trade tension between USA and China might turn for the better and all Chinese people in the world were looking forward to the coming lunar new year, the outbreak of COVID-19 originated in Wuhan (China) once again put the whole world in a turmoil. On Jan. 23rd, just one day before the lunar new year's eve, the Wuhan City Government announced an immediate order to prohibit residents in Wuhan from leaving the city and reject people from outside Wuhan from entering the city. Such an order shocked the whole world, as before the announcement more than 5 million residents in Wuhan had left for their hometowns or other countries for new year bank holidays, which means the virus might have been soon spread out by these people throughout China and the world. As of the date (Feb./20) when this article was submitted, the number of the global infection had exceeded 75,000 (inclusive of 2,128 cases dying from this disease), which is even far beyond the reported number of the previous global SARS infection, which took the lives of 774 people among 8,096 infected patients in 2003. As a matter of fact, COVID-19 epidemic is more infectious than SARS is and has aroused much more panic throughout the world (Asia, in particular) than SARS has due to the real-time dissemination via social media. As the virus seemed to continue to spread out and as many as around 80 Chinese provinces were still in the state of full city shutdown or certain community shutdown, the original date (Feb./10) set for factories in China to resume operation was delayed, not to mention that Beijing and Shanghai even carried out a stricter city shutdown mandate in order to prevent the epidemic from spreading out due to the population movement in the country, which thus made almost every Chinese factory unable to resume operation. So far, COVID-19 epidemic has become a very urgent issue, which is expected to cause a great impact on the global economic development.

Industries that have been influenced first by the epidemic originating in China are tourism and aerial transport. According to the statistics of the World Travel & Tourism Council (WTTC), in 2017 the recreational activities and business travel in Asia contributed US\$ 884 billion in total to the regional GDP, and the figure even climbed to around US\$ 1,000 billion in 2018. In addition, according to the statistics of China National Tourism Organization, in 2019 Chinese tourists contributed US\$ 127.3 billion revenue in total to other countries. However, a few countries have announced a travel ban over their domestic flights to China and rejected the entry of Chinese citizens. Even N. Korea and Russia, the closest and most supportive allies of China, have also rejected the entry of Chinese citizens, leaving the operation of global airports, airlines, and relevant tourism industries in a state of chaos. Moreover, due to the effect of the city shutdown in China and delayed operation of Chinese factories, China is suffering a very big economic loss, which is simultaneously making a great impact on the global supply chain and consumption.

The Impact of COVID-19 on Taiwan Fastener Industry

by Dr. Wayne Sung

As China is the world's largest exporter and the world's 2nd largest importer, its export plays a key role in influencing the global economy and raw material prices, and it is also a critical factor in helping other countries maintain their prices at a lower level. China's import will also influence the capacity balance of the world, especially its demands for food, raw materials and electronic components (incl. integrated circuit and telecommunication parts). The demand for electronic components will cause a great impact on Taiwan, as 40% of Taiwan's export must rely upon the supply from China and Hong Kong. Once the production in China is temporarily stopped for more than a month, which means there is no demand in China, Taiwanese companies will face the direct impact, as their products cannot be delivered and the excessive inventory will further influence the following production. On the other hand, some materials used in the supply chain of Taiwan are imported from China, so when China stops production of the materials, Taiwanese companies won't have enough materials for production and that will result in a very big problem.

On Feb. 13, 2020, Director Ming-Hui Wu of the Economic Development Division of Taiwan's National Development Council said in a press conference that up to 27.9% of Taiwan's exports were shipped to China, while 20.1% of its imports were satisfied by China. She added that due to the influence of COVID-19 epidemic, the tourism, electronic components, auto parts, petrochemical and machinery industries are forecast to be hardly hit. In addition to the great impact on tourism, it will also cause a great impact on the industry manufacturing electronic components for smart phones. As for the machinery industry, the demand will be also slashed due to the extended shutdown of Chinese production lines. All companies have to take these issues very seriously.

The author forecasts that COVID-19 epidemic may be under control by the 3rd quarter this year, and sales of Taiwan fastener industry in the first two quarters of 2020 may also become better than in 2019, especially the sales of products already approved by customers. Taiwanese fastener companies must strive for taking the orders currently taken away by Chinese suppliers offering lower-than-normal prices back and regain their market share. In order to achieve this goal, the author will try to explore it in the following paragraphs from a few perspectives: (1) the analysis of Taiwan's fastener sales in 2018-2019; (2) sources of materials, which will be focused on the analysis of wire coil manufactured by Taiwan CSC; (3) the occupational safety and hygiene management policies adopted by respective enterprises; (4) projections of the fastener market after COVID-19 is fully under control. Below are the illustrations:

Analysis of Taiwan Fastener Market

Take Taiwan fastener industry for example, in 2019 its export of products falling within HS code 7318 (fasteners of iron and steel) amounted to US\$ 4,316,855,000 (2018: US\$ 4,638,379,000), which is a 6.95% decline. Amongst the major export destinations of Taiwan in the period, the U.S. originally showed a 4.25% increase in the first 3 quarters, but suddenly showed a negative drop of -1.31% in the last quarter. Its export to Europe in the same period was even down 11%, which reveals a sign that Taiwan's fasteners in 2019 were not as competitive as they used to be. On the contrary, in the first 3 quarters of 2019, Chinese fastener manufacturers, though facing high tariff rates imposed by the U.S., still tried really hard to extend reach to U.S. and European markets. The combined sales data for 2019 show that the



competitive edge of Taiwanese fasteners in Europe has been challenged again and again by its Chinese counterparts, who began to win the trust of European buyers with their fasteners at more competitive prices. With the effect of COVID-19 epidemic, the author forecasts that some overseas orders will be switched to Taiwan, so Taiwanese fastener suppliers should be active in getting those customers previously switching their orders to other countries back, especially those who have recognized the quality of Taiwanese suppliers. It is expected that Taiwan fastener industry will experience the effect of order switching no later than the 1st or 2nd quarter of 2020.

Table 1. Taiwan's Top Overseas Sales Destinations in 2018-2019

Unit: 1,000 USD

Region/Country	2018	2019	YoY (%)	Percentage in Taiwan's Total Overseas Sales in	
				2018	2019
China	143,922	114,126	-20.70%	3.10%	2.64%
Asia (excl. China, Hong Kong, Japan)	712,790	633,831	-11.08%	15.37%	14.69%
USA	1,775,012	1,751,781	-1.31%	38.27%	40.59%
Hong Kong	26,580	23,931	-9.97%	0.57%	0.55%
Europe	1,604,044	1,427,522	-11.00%	34.58%	33.07%
Japan	230,497	241,269	4.67%	4.97%	5.59%
Central & Southern America	61,035	45,476	-25.49%	1.32%	1.05%
Others	84,499	78,238	-7.41%	1.82%	1.81%
Total	4,638,379	4,316,174	-6.95%	100%	100%

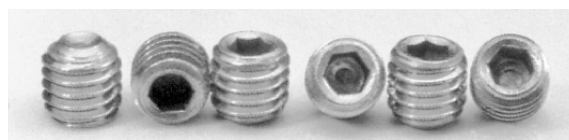
Analysis of Sources of Materials

China is currently the largest steel producer and iron ore consumer in the world; therefore, its demand affects the profit gains of global iron ore plants. Previously the iron ore price plummeted due to excess supply. In the last two years, the government of China has been controlling excessive capacity. To improve air quality, it asks steel plants to reduce production. Additionally, stricter environmental protection laws have made factories in China opt for high quality iron ore to increase capacity utilization, and therefore, the iron ore prices have went up. It is evident how much China can affect the iron ore market. Is COVID-19 going to impact the supply of wire rods in Taiwan which are the material for fasteners? Taiwan CSC is the largest wire rod supplier to Taiwan fastener industry. The author referenced its description on material purchase in the consolidated financial report for the 3rd quarters of 2018 and 2019. It signed long and short-term material purchase contracts running from 1 to 5 years with primary material suppliers from Australia, Brazil, Canada, China, Japan, Philippines, Vietnam, Indonesia as well as domestic suppliers in Taiwan. The contracts promised to purchase 11.76 million tons of coal, 25.01 million tons of iron, and 3.73 million tons of lime, with the prices negotiable between both parties. As of Sep./30/2019, the value of unfulfilled contracts totals around US\$ 4.5 billion (including 8.98 million tons of coal, 39.2 million tons of iron, and 1.98 million tons of lime). In this report, the top 3 sources of iron ore import for Taiwan CSC are Australia, Brazil, and



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Canada. For the time being, there should be no problem with iron ore supply. Judging from this, in the short term COVID-19 will not cause a shortage in wire rods used by Taiwan fastener industry.

Occupational Safety and Hygiene Management in Companies and Factories

COVID-19 poses the largest impact on the health of personnel working in factories. Occupational safety and hygiene management are proven to be critical in the prevention of viral infection. As soon as I learnt the news on the shutdown of Wuhan City in China, I followed the requirements of ISO45001 and told the business owners that sought my consultation to hold group meetings and begin preventative measures before resuming operation in the lunar new year. Below is my advice:

1. Make it compulsory to wear a mask at work. Companies ought to have enough stock of masks for employees. Punishments and audits must follow along the compulsory mask measures.
2. Body temperature should be taken from each person entering the company. Those exceeding are not allowed into the company and must take an immediate sick leave at home.
3. Before commencing work in the office, employees must report his/her travel history during the holidays and health condition. Those with a potential of flu infection are suggested to keep themselves in check and take a compulsory leave.
4. Companies should exercise extra precautions to manage and monitor employees traveling to China or visiting there for business.
5. If there is an exorbitant number of employees on sick leaves, companies should arrange contingency measures, such as regulations for employees working from home and regulations on filling vacancies.

Currently the standards governing the occupational safety and hygiene management are OHSAS 18001:2007 and ISO45001:2018. OHSAS 18001:2007 will expire in 2021, and by then, ISO45001:2018 will be the only international standard for occupational safety and hygiene management. If there is an opportunity, I will explain it in another article.

Change in the Global Fastener Market After COVID-19 Outbreak

COVID-19 outbreak will impact China's position in the world's manufacturing and international corporations may withdraw faster from China. The global supply chain will further implement the strategy of decentralization, through which Taiwanese fastener industry may be able to effectively stop or slow down the export drop observed in 2019. The end day of COVID-19 remains a debate amongst experts and leaves everyone else unsettled without knowing which side to go for. Based on the past experience with SARS, COVID-19 is expected to be controlled in June 2020. By then, factories in China will be back on 100% production and work harder to deliver products that were delayed in the first two quarters. The author predicts a fast recovery of China's manufacturing capacity in the 3rd quarter. This will be a critical timing to determine the future of Taiwan's fastener market development. Taiwan fastener industry can keep its stability if it can take advantage of high quality and service to retain clients who return as a result of the outbreak. Therefore, Taiwanese fastener companies must set the highest standard on quality, lead time and service to cope with the returning orders and earn the trust of clients. Taiwan fastener industry has to grasp opportunities and make continuous improvement for future competition in the ever-changing environment.

