

The relationship between economic and political factors and the development of the manufacturing industry

Chang Chang*

School of Mathematics, University of Manchester, Manchester, M1 9PL, United Kingdom

*Corresponding author. Email: chang.chang@student.manchester.ac.uk

Abstract. With the development of global economy, people can often see many foreign products, which can not be separated from the development of national politics, economy, and there is an excellent general environment. The development of the manufacturing industry is crucial to the economic and political development of a country, through the analysis of the economic, political and Covid-19 perspectives on the development of the manufacturing industry. Many manufacturing industries are facing the possibility of bankruptcy under the influence of Covid-19. Firstly, this paper investigates that economic development and political measures have different degrees of impact on the manufacturing industry through extensive data analysis. Secondly, By analyse the impact of the global spread of coronavirus on the manufacturing industry, such as the decline in the quality of raw materials leading to a lack of market demand and the increased risk of plant closures. Businesses, oversupply. In the face of the Covid-19, regionalization and digitalization trends, a three-step countermeasure is proposed to help the manufacturing industry recover from a macro perspective and to better assist the subsequent transformation and upgrading of the manufacturing industry.

Keywords: Economy, Polity, Covid-19, Manufacturing Industry.

1. Introduction

For the sudden "black swan" event [1], Covid-19 prevailed for two years around the world, which directly led to the shutdown of many manufacturing enterprises and the closure of related manufacturing plants in various countries. Manufacturing industry is the world's second-largest industry, manufacturing production levels have become a level used to measure the gap between developing countries and developed countries, and manufacturing occupies an important share in the overall development of the economy. Before Covid-19, many countries promoted the development of the manufacturing industry through political means and economic policies. In the past two years, the production level of the manufacturing industry was seriously affected by Covid-19, which led to the decline of productivity and stagnation of national economic development. Different countries have introduced relevant policies to reduce the direct impact of Covid-19 on the manufacturing industry. The study analyses a wide range of literature to roughly analyse which of the political, economic and natural factors are more important for manufacturing production levels.

2. The impact of political instruments on various manufacturing industries

2.1 Impact of Brexit on the UK Manufacturing Industry

The UK's exit from the EU may produce a rearrangement of the share of various types of manufacturing industries in the UK, which will have a certain impact on the composition of the UK manufacturing industry. First, the UK needs to re-sign trade contracts with the EU, which has a great impact on the import and export of products and prices. Through the analysis of figure 1, figure 1 shows that the overall downward trend in the results of the five simulation scenarios. How the manufacturing industry adapts to the changes in tariff and non-tariff measures induced under different policies depends on several factors: firstly, the results will depend on the changes in trade costs for each type of manufacturing industry; secondly, the impact will depend on the underlying structure of UK manufacturing trade

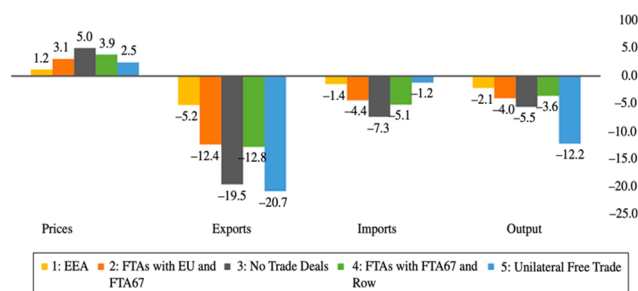


FIGURE 1 How different manufacturing scenarios will impact prices, exports, imports and output in the manufacturing sector [Colour figure can be viewed at wileyonlinelibrary.com] [4]

None of these would lead to positive outcomes for UK manufacturing, and all five simulated scenarios suggest that Brexit would lead to higher trade costs between the UK and the EU and that these higher costs would harm all types of UK manufacturing in the long term.

2.2 Impact of Reform and Opening up on China's Manufacturing Industry

2.2.1 Historical background of reform and opening up

Since the founding of New China, the national government has been committed to creating the image of world power. From the domestic situation, the "Cultural Revolution" brought serious disasters to the Party and people as well as the socialist cause [6]. The "Cultural Revolution" has brought serious disasters to the Party and people as well as to the socialist cause. To correct the mistakes of the "Cultural Revolution" and completely reverse the serious situation at that time became a popular wish.

In terms of the international environment, the new scientific and technological revolution flourishing in the world pushed the world economy forward at a faster pace, and the gap between China's economic strength and scientific and technological strength and the international advanced level widened significantly. The enormous pressure of international competition has created a strong sense of crisis and urgency for the Party and the people to catch up. If China wants to catch up with the trend of the times, achieve rapid economic and social development in China, improve people's living standards, and win comparative advantages in competition with capitalism, reform is the only way out. As Xiaoping Deng said, "If China does not implement reforms now, our modernization and the socialist cause will be buried," at the same time, after the 1970s, the international situation and the world political landscape have undergone significant changes, and the need for peace and development has gradually become a world trend, while China has experienced a century of turmoil and After a century of turmoil and civil war, China has been striving for a long-term peaceful and stable development environment, which has provided important external conditions for China to implement reform and opening up. In 1978, Xiaoping Deng first proposed that socialism should have Chinese characteristics, Xiaoping Deng used the policy of reform and opening up to upgrade China's manufacturing industry and put forward new development goals. China is a socialist country, and the development is oriented to the interests of the people, and the only way to stay in power is to improve the practical problems of the people's lives from the people's perspective [7]. This approach led to the rapid development of China's manufacturing industry and the rapid integration of the Chinese economy into the global economy.

The policies introduced by Deng were very effective in improving the production level of the manufacturing industry: first agriculture, then foreign investment facilitation to create and strengthen its manufacturing industrial base.

2.2.2. Initial Impact of Reform and Opening up on the Manufacturing Industry

Deng's approach to the development of China's manufacturing sector reduced government intervention and shifted control of some manufacturing enterprises to provincial and local governments. At the same time, economic reform policies favouring the development of the manufacturing industry were implemented, the most important relevant aspects of which were the

creation of four special economic zones along the Chinese coast to attract foreign investment and promote international trade with cheap and quality-assured products, and to promote the operation of Chinese manufacturing industry according to the free market principles, which greatly promoted the development of Chinese manufacturing industry and solved the employment problem of overpopulation. This allowed China's economy to grow rapidly and gave Chinese manufacturing a place among global manufacturing companies, making China the second largest manufacturing country in the world.

2.2.3. Political Case: Suzhou Industrial Park

Since the reform and opening up, one important policy is the construction of "One Belt, One Road", which has ushered in the upgrading of China's state-level special economic zones, the transformation of manufacturing innovation, and the expansion of international cooperation. Since the implementation of the reform and opening up, the construction of China's economic manufacturing industry has received high support and attention from many local governments. National-level manufacturing industries are distributed in various provinces and cities, and Suzhou Manufacturing Park stands out among the many national-level manufacturing parks. With a lot of resources provided by the Chinese government and the Singaporean government, the Suzhou Manufacturing Park, which came into being as a result of the cooperation between the Chinese government and the Singaporean government, developed rapidly and rapidly and soon became one of the most internationally competitive manufacturing parks among the many manufacturing parks in China. Therefore, the innovation and transformation experience of Suzhou Industrial Park has a positive demonstration and reference role for other manufacturing development zones.

In October 2015, the State Council approved the overall plan of Suzhou Manufacturing Industrial Park's open innovation comprehensive experiment, making the manufacturing park the first region in China to carry out this experiment. For Suzhou Manufacturing Park, the government has adopted an open development policy, which is conducive to the introduction of a large number of resources to Suzhou Manufacturing Park and can cooperate with the Free Trade Zone to achieve strong cooperation. In the long run, it has accumulated resources and conditions for the transformation and upgrading of Suzhou Manufacturing Park. The policies issued by the Suzhou government have provided a variety of paths for the Suzhou Manufacturing Park, integrating information technology, urbanization and industry, using manufacturing and urban integration to create a new generation of high-tech manufacturing cities. The Suzhou government has provided a platform for the construction of the Suzhou Manufacturing Park in five areas, providing new production power for the Suzhou Manufacturing Park and improving the production level of the Suzhou manufacturing industry. So that the development and construction of the manufacturing park can always get continuous development in the future and be at the forefront of the reform and opening-up policy. As technology continues to develop and international capital inflows decrease, the era of relying on labour and capital factors to drive park development is coming to an end. Based on innovation-driven development factors, the Suzhou government has allocated large amounts of funds to increase R&D investment and create high-tech industries with innovative R&D vitality, helping Suzhou's manufacturing parks transform, upgrade, and develop in a new way. Since 2010, the Suzhou government has invested heavily in the research and development of technology industries at the request of the Chinese State Council and has used its previous open-door policy to attract foreign resources to invest in the Suzhou Manufacturing Park and open R&D bases. This has resulted in the Suzhou Manufacturing Park attracting a large number of high-quality overseas talents and a steady increase in R&D investment in the Suzhou Manufacturing Park, which has increased the productivity of the manufacturing industry and made the Suzhou Manufacturing Park more competitive among other parks. There are nearly 10 national research institutes, 28 Chinese and foreign universities, and 480 R&D institutions [8]. At the same time, the Suzhou government has used existing scientific research resources to accelerate new projects created with national government support, such as the Nano Vacuum Interconnection Experiment Station and the National Nanotechnology International Innovation Park. At the same time, the government has also introduced preferential policies to attract

foreign investment to the Suzhou Manufacturing Park, attracting many countries such as Finland, the Netherlands, Canada and other enterprises to Suzhou Manufacturing Park development, solving the problem of local employment shortage, from a long-term perspective Suzhou government for the future transformation and upgrading of the future Suzhou Manufacturing Park, to create a new manufacturing information

Suzhou manufacturing industrial zone provides the experience for the development of China Belarus Industrial Park, The exchange between the Chinese and Belarusian governments at the conference culminated in the decision to establish the China-Belarus Manufacturing Park in the country of Belarus. The Chinese and Belarusian manufacturing parks are a landmark of the Silk Road and are located in a convenient location, close to railroads and airports, which provides convenient logistics for the manufacturing parks. The use of resources reduces the production costs of manufacturing parks in China and Belarus, which is very beneficial for the development of manufacturing industries in China and Belarus in the long term. Moreover, the manufacturing park is positioned to focus on the development of machinery, chemical and high-tech manufacturing industries, which is the mainstream of future global development, and the Chinese and Belarusian governments have provided a clear path for the future development of the park.

3. Impact of china's manufacturing industry on the economy

In China, reform and opening up are not only a political means, but also largely promote the development of China's economy, strong policy implementation to promote the rapid development of heavy manufacturing enterprises, and manufacturing production methods gradually modernized, since the reform and opening up, China has adopted a balanced economic development strategy. Since the reform and opening up, China has adopted the strategy of balanced economic development. The balanced development of structure has corrected the seriously deformed structure of the traditional planned economy which excessively pursues heavy industry. On the one hand, with the rapid development of the manufacturing industry, the increase in jobs and the increase in job types greatly solved the employment problem and improved production efficiency and gave birth to new production methods, which opened the second industrialization of China. The main features of modern industrialization are the declining Engel coefficient with the growth of GDP per capita and the increase of residents' consumption, leading to the declining primary industry, i.e., agriculture; the beginning of industrialization represented by manufacturing; and non-agricultural employment becoming the main employment mode in society, replacing the traditional employment mode. This modern industrialization has accelerated the integration of China's manufacturing industry and the world market, in which people are production and living consumption needs are expanded to a global scale, and manufacturing enterprises established within the world market employ more employees from different countries, invariably promoting the integration of world civilizations.

Specific implementations include: the governments of China and Belarus have provided a clear path for the future development of the park: (i) lowering tax prices for many products; (ii) favourable government policies to attract overseas investment and R&D bases in China; and (iii) the Chinese government's policy of making coastal areas and new generation coastal cities open trade cooperation zones by allowing local governments to introduce policies to lower taxes and encourage freedom of trade according to local development in order to attract Direct investment from overseas countries [10]. These implementations have brought manufacturing trade costs down significantly, and manufacturing industries can enjoy regional dividends in coastal areas and take advantage of geography to develop more multinational manufacturing industry business, allowing China to further integrate into the global economy, and also attract more high-quality overseas talent to provide an advantage for future manufacturing information upgrading and transformation.

On the other hand, the most direct impact of the economy on the manufacturing industry is the rapid progress of science and technology. The breakthroughs in technology and its application in the manufacturing industry will break the equilibrium environment of proportional production within the

original production and drive economic growth, further promote the rationalization of the social division of labour and improve the production efficiency of the manufacturing industry.

Shantou region, located in the eastern coastal city of Guangdong, consists of three regions, Shantou, Jieyang, and Chaozhou, and is an important part in the advancement of reform and opening up, with manufacturing industries as the main focus. Many overseas investors have chosen Shantou as a priority investment location due to its excellent geographical location. Shantou mainly drives the local economy with manufacturing exports. At the same time, based on the general environment, the inland support for labour-intensive industries has formed the Shantou manufacturing economic zone with a cargo trade and transportation circle, airports, trains, municipalities, higher education institutions, and high-tech enterprises all concentrated in the downtown area of Shantou. The concentration of high-quality resources has led to the rapid development of Shantou's economy, which is based on the geographical advantage and vast land area, as well as China's abundant and cheap labour force, which has led to the development of different types of manufacturing industries in Shantou, promoting the exchange between Chinese and global manufacturing industries, expanding the size of the market and promoting the exchange between China and different cultures. It also promotes the exchange between China and different cultures.

4. Impact of COVID-19 on the Global Manufacturing Industry

History is only made and remembered in black swan events [1]. The sudden outbreak of this Covid-19 is undoubtedly making history and testing the attitude of various countries around the world towards this event. China, the mainstay of the manufacturing industry, has seen many auto manufacturing-related companies announce production shutdowns and apply for shorter working hours. For example, Iran has restricted the import of complete vehicles to support the local auto manufacturing industry; Japanese auto parts and steel have been affected by Covid-19 leading to a break in the supply chain, especially imports from China have been reduced by half compared to the same month of the previous year, and procurement has been affected; Volkswagen and Volvo have closed their factories in Europe. As of March 18, the total number of European OEMs that have announced that they have shut down and will shut down production exceeds 70 [14]. This has led to unstable market demand and a ready risk of bankruptcy for small and medium-sized enterprises.

Because of the different social nature and different economic model development factors, Covid-19 significantly changed the consumer demand for various items and the structural division of labour in manufacturing shifted the focus to critical items in the crisis. Many heavy industries are involved in the production of medical equipment. In China, many manufacturing industries with expertise and equipment are producing masks, protective clothing, goggles, etc. in large quantities to provide adequate medical resources to the world because of the impact of Covid-19, but some manufacturing industries are unable to change their production structure and are considering a more advanced organization to optimize their future production structure in the future. In the long run, the manufacturing industry considers more intelligent, informative and comprehensive technology transformation, which provides more possibilities for the future manufacturing industry and has a more lasting impact on China's future manufacturing transformation and upgrading, which is more in line with the market economy.

5. Conclusion

The natural environment, economy and politics have different influences on the manufacturing industry, it is like a closed loop, from the government issuing relevant policies to promote the development of the manufacturing industry according to the national conditions, thus driving the development of the local economy. The rapid economic development has provided new production capacity for the manufacturing industry, and also reconstructed the division of labour within the manufacturing industry, breaking the original production ratio and giving birth to many different

kinds of manufacturing industries to meet the needs of people. The rapid development of the economy has led to the more recent development of global technology, and more and more high-tech multinational manufacturing industries have brought great convenience to people's lives. The manufacturing industry also promotes the development of tertiary service industry, the Engel coefficient of people is getting lower and lower, people no longer care about food and clothing, but enjoy spiritual life more, because there are various types of manufacturing industries developed as the background of the world mainstream industry. But with the impact of the new crown Covid-19, the rapid spread of the virus and the high mortality rate made the global economy stagnate or even regress, the transportation industry was the first to bear the brunt, and people cared more and more about their food and clothing, saving money as much as possible and no longer buying luxury goods. This has led to oversupply, increased unemployment, and more unemployed people leading to social chaos and unrest. Therefore, from the perspective of global development, these three factors are considered extremely important for the development of the manufacturing industry.

Since Covid-19 is still raging in various countries, the development of the manufacturing industry has been resisted or even reduced in kind. And the manufacturing industry is the main body of the real economy and the mainstay of each country. In this regard, the following three suggestions are put forward for the development of the manufacturing industry.

Firstly, governments should introduce policies favourable to the development of the manufacturing industry, expand the scale of manufacturing enterprises, further refine them into various divisions of labour, increase employment opportunities, and provide subsidies to solve the problem of food and clothing for the unemployed. At the same time, the direction of Covid-19 should be strictly controlled, the vaccination rate should be increased, and mass immunization should be realized as soon as possible.

Secondly, each country should strengthen the connection between countries, strengthen economic cooperation, localize, modernize and informative the multinational manufacturing industry, and adjust the structural division of labour in the manufacturing industry to realize the transformation and upgrading of the manufacturing industry. At the same time, each country should further increase the skills and training of vocational education, encourage excellent professional talents to stay in the manufacturing industry, encourage the spirit of practical work, and attract more young people to join the development of the manufacturing industry.

Finally, each local government should introduce favourable and relevant policies to vigorously promote the high-quality development of manufacturing and modern enterprises, and promote the deep integration of manufacturing and tertiary service industries, accelerate the comprehensive strength competition of all factors, tap the potential of the domestic consumer market, expand the scale of the domestic market, provide the attractiveness of domestic market to overseas manufacturing enterprises, optimize the infrastructure, improve the manufacturing structure and strive to reduce the production cost of the manufacturing industry.

6. References

- [1] TALEB N N. The black swan: The impact of the highly improbable [M]. New York, USA: Random House, 2010.
- [2] Source: China Robot Summit, the Covid-19 has impacted the global manufacturing industry, how to seize new opportunities for post-Covid-19 development, Release time: 2020-03-19, August 6, 2020, <http://www.chinarobot.com/m/newsinner.php?id=271>
- [3] To create a sound ideological basis for Reform and Opening-up, Deng coined this term as a reformist formulation of the ideology, adding China's special situation and features to the Marxist-Leninist creed, broadening the basis even more to include all reforms to be carried out during the Second Revolution.
- [4] The Cultural Revolution generally refers to the Great Proletarian Cultural Revolution. The Cultural Revolution, known as the Great Proletarian Cultural Revolution, took place from May 1966 to October 1976, and was civil unrest that was wrongly launched by the leaders and exploited by counter-revolutionary groups, bringing serious disasters to the Party, the country and the people of all ethnic groups, leaving behind extremely painful lessons.
- [5] The Book of Rites - Rites of Passage: "The Way of a Great Way is also the world for the public, the selection of the virtuous and the able, the preaching of faith and the cultivation of harmony." It also means to select and appoint

virtuous people, also as "select the virtuous and capable" and "select the virtuous and capable". It comes from "The Book of Rites": "The Way of a Great Way is to do the same, to make the world a public place, to choose the virtuous and the able, and to speak of faith and cultivate goodwill.

- [6] Reform and Opening-up: Chinese Lessons to the World Marcus Vinicius De Freitas, Policy Center for the New South, pp-19/05.
- [7] Xiahui Liu, Institute of Economics Chinese Academy of Social Sciences, Beijing, China, Structural changes and economic growth in China over the past 40 years of reform and opening-up, China Political Economy Vol. 3 No. 1, 2020 pp. 19-38 Emerald Publishing Limited 2516-1652. DOI 10.1108/CPE-05-2020-0010
- [8] Gong Xiaoying School of Marxism, Tongji University, Shanghai 200433; Luo Huimin School of Marxism, Tsinghua University, Beijing 100084; Yang Yu, Youth League Committee, Huaihua University, Huaihua, Hunan 418000), Research on the evolution characteristics and mechanism of my country's exchange relations in the 40 years of reform and opening up, Journal of Shanghai University of Finance and Economics, DOI: 10.16538/j.cnki.jsufe.2018.06.002
- [9] The Suzhou Industrial Park Administrative Committee (2015). The comprehensive plan for comprehensive experiment of open innovation in Suzhou Industrial Park. Retrieved Oct 13, 2015, from http://news.sipac.gov.cn/sipnews/yqzt/yqzt2015/201510kfcxp/ztfa/201510/t20151013_392716.htm
- [10] Zhang Min, Yuan Ding, Institute of European Studies Chinese Academy of Social Sciences. No.5, Jianguomennei Street, Beijing PRC, FORTY YEARS OF CHINA'S REFORM AND OPENING POLICY: INNOVATIVE TRANSFORMATION OF SUZHOU INDUSTRIAL PARK AND ITS CONNECTION WITH THE ONE BELT AND ONE ROAD INITIATIVE
- [11] Huixin Dongjie, University of International Business and Economics, No.10, Chaoyang District, Beijing 100029, China. Jintaili, Hongmiao, Capital University of Economics and Business, No. 2 Chaoyang District, Beijing 100026, China. Marketing research in China during the 40-year. reform and opening DOI: <https://doi.org/10.1186/s11782-019-0071-0>
- [12] Geng Dewei and Fu Juan of the Big Data Development Department of the State Information Center, published in China Economic and Trade Tribune, February 2021, August 8, 2022, https://www.ndrc.gov.cn/xxgk/jd/wsdwhfz/202106/t20210628_1284323.html?code=&state=123
- [13] Released by the National Bureau of Statistics: 2022-06-30 09:30, August 2, 2020 http://www.stats.gov.cn/tjsj/zxfb/202206/t20220630_1858686.html
- [14] CAI Min, LUO Jianwen* Antai College of Economics and Management, Shanghai Jiao Tong University, Shanghai 200240, China, Influence of COVID-19 on Manufacturing Industry and Corresponding Countermeasures from Supply Chain Perspective, Shanghai Jiao Tong Univ. (Sci.), 2020,25(4):409-416, DOI:<https://doi.org/10.1007/s12204-020-2206-z>
- [15] F. Tietze, P. Vimalnath, L. Aristodemou, J. Molloy, Crisis-Critical Intellectual Property: Findings from the COVID-19 Pandemic, Centre for Technology Management Working Paper Series, 2020, <https://doi.org/10.17863/CAM.51142> no. 2.
- [16] Zimmerling, Amanda, and Xiongbiao Chen. "Innovation and Possible Long-Term Impact Driven by COVID-19: Manufacturing, Personal Protective Equipment and Digital Technologies." Technology in society 65 (2021): 101541-. Web.