

Article

Research on Industrial Agglomeration and Isomorphism of Manufacturing Industry in Pearl River Delta

Li Liu

School of International Business, Xiamen University Tan Kah Kee College, China; liulil101@xujc.com

Received: Mar 24, 2021; Accepted: Aug 22, 2021; Published: Sep 30, 2021

Abstract: As a national strategy, the construction of Guangdong-Hong Kong-Macao Greater Bay Area is of great significance. The Pearl River Delta is one of the core regions of the Guangdong-Hong Kong-Macao Greater Bay Area and important for the upgrading of innovative manufacturing industries. It is important to enhance the competitiveness of those areas and optimize industrial structure by promoting the division of labor between cities. The quantitative research on the industrial agglomeration and industrial isomorphism of the manufacturing industry in nine cities in the Pearl River Delta shows that each city has formed its specialized manufacturing industry, and the phenomenon of industrial isomorphism has been improved by the unified planning of the manufacturing industry in the Pearl River Delta.

Keywords: Pearl River Delta, Manufacturing, Industry Cluster, Industry Isomorphism

1. Introduction

The planning and construction of the Guangdong-Hong Kong-Macao Greater Bay Area is an important regional development strategy for China. In March 2017, the vision of building the Guangdong-Hong Kong-Macao Greater Bay Area was written into the Government Work Report as a national strategy. On July 1, 2017, the Framework Agreement on Deepening Cooperation between Guangdong, Hong Kong, Macao and Promoting the Development of the Greater Bay Area was signed, marking the beginning of the implementation phase of building Guangdong, Hong Kong, and Macao into an internationally first-class Bay Area and a world-class city cluster. As a space carrier to achieve a higher level of opening to the outside world than before the development, the development of the manufacturing industry in Guangdong-Hong Kong-Macao Greater Bay Area is particularly eye-catching. Each area has its characteristics, such as Hong Kong's financial, transportation and trade center, Shenzhen's high-tech industry innovation center, Foshan, Dongguan, represented by the manufacturing industry, as well as the whole area on intelligent manufacturing, education, culture, and tourism industry, advanced manufacturing industry. The Pearl River Delta manufacturing industry plays an important role in the Greater Bay Area. From the early stage of reform and opening, this region has made great achievements by relying on the policy, superior geographical location, low-cost labor force, land, and other traditional production factors and establishing the cooperation model of "front shop, back factory" with Hong Kong and Macao manufacturers. When the large bay area of Guangdong construction as national strategy finished, the originally low value-added manufacturing is now realized in the differentiation between different cities' development to promote the industrial division and cooperation between the cities. Collaboration in the advanced manufacturing industry is an important factor of the successful construction of a large world-class bay area.

2. Literature Review

2.1. Industrial Agglomeration

Industrial agglomeration refers to the phenomenon that the same or similar industries are highly concentrated in a specified area, which leads to the spatial concentration of industrial capital in the area. Industrial agglomeration attracted the attention of economists at the beginning of the 20th century. For example, Marshall proposed the important concepts of "internal economy" and "external economy". Economists continue making progress in industrial agglomeration theory, such as Weber's location agglomeration, Schumpeter's innovation industrial agglomeration theory, Hoover's the optimal scale of industrial cluster theory,

and Porter's enterprise competitive advantage theory and theory of diamond model, all factors, mechanism, and effect of industrial agglomeration to enrich and perfect.

The formation of industrial agglomeration depends on the market mechanism in the early stage. In history, several regions first formed standardized markets, which provided broad market conditions and sufficient information for industrial agglomeration. As a result, activities such as product development gradually gathered around the market, thus forming the central region of agglomeration. Industrial agglomeration is based on capital or policy dominance. For example, industrial parks with foreign investment and development zones of different levels are easily found at the national and local levels.

The agglomeration of the manufacturing industry in space and region promotes economic development. First of all, economies of scale promote economic growth, and technological innovation is accelerated to form a new driving force for further growth. This promotes the high-quality development of the whole region. Secondly, the concentration of the manufacturing industry accelerates the transformation of the agricultural labor force to the non-agricultural labor force, promotes the development of urbanization, and improves the income level. The improvement of income level also increases the demand for consumption and public services, thus improving the household consumption structure. Therefore, it promotes the development of product services and the improvement of the development level and quality of the manufacturing industry. Finally, industrial agglomeration produces the labor pool that attracts a large number of laborers to the park for employment, improves labor matching efficiency, and reduces the unemployment rate and the uncertainty of employment. When faced with risks of external uncertainty, enterprises within the industrial cluster are encouraged to carry out technological innovation to reduce challenges brought by market fluctuations and policy changes.

2.2. Industrial Isomorphism

The phenomenon of industrial isomorphism refers to the similar industry among different regions in terms of spatial distribution, composition ratio, industrial interconnections, and allocation of production factors. The increasingly similar industrial structure reduces the efficiency of resource allocation and intensifies the competition among regions, thus hindering the formation of regional specialization.

The main factors forming the industrial isomorphism within the region include the following.

First, similar factor endowment factors, such as natural resource factors and labor factors. Within a certain geographical scope, adjacent cities often have similar productions, which tends to lead to similar industrial structures. The second factor is market demands. Regional location and market demands are prerequisites for the development of the manufacturing industry. The superiority of location is conducive to industrial agglomeration, but the layout of industries tends to be the same if the location factors and market conditions of neighboring cities are similar. The third factor is the institutional factor. Government policies and guidance are indispensable for the development of the manufacturing industry. Local governments in neighboring cities often learn from each other and formulate similar policies to support industrial development to improve their political achievements, thus industrial isomorphism occurs. The fourth factor is technology spillover. Communication of technology and the cooperation between industries are the internal reasons for the formation of industrial agglomeration. The deepening of industrial agglomeration reinforces the convergence of advantageous manufacturing industrial structures among neighboring cities.

There are different conclusions about the economic impact of industrial convergence base on industrial isomorphism. Jiang (2005) believed that regional industrial isomorphism harms regional economic development, causes waste of resources, and impedes the upgrading of the overall industrial structure. The regression of GDP growth rate and industrial structure from 1992 to 2002 by Wang and Fan (2008) showed that there is a nonlinear relationship between them. Jiang and Su (2012) studied the high-tech industry in 16 cities of the Yangtze River Delta in 2009 and found that the investment of high-tech industry capital and the reduction of industrial structure difference had a promoting effect on regional economic growth. The research of Gugler and Pfaffermayr (2004) showed that the convergence of regional productivity promotes industrial convergence in different regions. Nicole and Claudia (2010) conducted an empirical study on the industrial structure of the manufacturing and service industry in 14 European Union countries over 36 years and found that the industrial isomorphic phenomenon among related industries was significant. The research of Luo and Tan (2016) showed that the overall efficiency of industry isomorphism has a significantly negative correlation relationship between them. For the technical and living consumption industry, however, industrial isomorphism and the comprehensive technological efficiency of industry are positively correlated. For the resources industry, on the other hand, industrial isomorphism is negatively related to the industry's technological efficiency.

3. Overview Development of Manufacture Industries in Pearl River Delta

According to the development status, industrial structure, industrial added value, and contribution to GDP of the manufacturing industry in Guangdong province in 2017, 20 subdivided industries were selected and divided into four categories: light textile,

petrochemical, electromechanical equipment, and electronic information. Four categories and their classifications are shown in Table 1.

Table 1. Four industry categories and specific industries.

Category	Specific Industry
Light textile	Agricultural and sideline food processing industry; Food manufacturing; Liquor, beverage and refined tea manufacturing; Textile and apparel industry; Leather, fur, feather and their products and footwear; Furniture manufacturing; Reproduction of printing and recording media; Culture and education, industrial beauty, sports and entertainment goods manufacturing
Petrochemical	Petroleum processing, coking and nuclear fuel processing industries; Manufacturing of chemical raw materials and chemical products; Pharmaceutical manufacturing; Chemical fiber manufacturing; Rubber and plastic products
Mechanical and Electrical Equipment	General Equipment Manufacturing; Special equipment manufacturing; Automobile manufacturing; Electrical machinery and equipment manufacturing
Electronics Communication	Manufacturing of computers, communications and other electronic equipment

The Pearl River Delta has a high population density and abundant mineral resources. However, it has a large energy demand. Some regions have scarce production resources, which provides the foundation for the labor-intensive manufacturing industry, while the development of the heavy industry is relatively slow. At the beginning of reform and opening up, the Pearl River Delta (PRD) made full use of the industries transferred from Hong Kong and foreign investment to develop light industry and labor-intensive industries. The “front shop and back factory” processing mode with Hong Kong laid a foundation for the manufacturing development pattern of the PRD. In the mid-1990s, with the further development, Shenzhen, Dongguan, and Huizhou seized the opportunity to introduce foreign capital and advanced equipment and initially formed the processing and assembly advantages in electronic information products.

Over the past 40 years of reform and opening, the Pearl River Delta has made continuous improvement in its processing and assembly capacity, and the rapid rise of new industries in pharmaceutical manufacturing, electrical machinery manufacturing, and computer and communication equipment manufacturing. In the Pearl River Delta, the growth rate of labor-intensive industries dominated by traditional textile and clothing slows down, while the competitiveness of capital-intensive manufacturing industries represented by communication and electronic equipment, continues increasing. After the 2008 world economic crisis, the global economic recovery is weak, China’s economy faced downward pressure, the Pearl River Delta manufacturing also had weak market demand, production costs rise, financing difficulties. At the same time, the Pearl River Delta manufacturing began to face problems such as industrial isomorphism.

Rostow first proposed the concept of the leading industry in his book “Economic Growth Stage”. The leading industries play a leading role in regional economic development. They are at the growth stage in the industrial life cycle, have a high contribution and growth rate of the region. According to the data in Table 2, in 2017, the leading industries of nine cities in the Pearl River Delta were electromechanical equipment and electronic information industries. Among all enterprises, electromechanical equipment accounted for 32.3%, but in the industrial output value, electronic information accounted for 38%.

Table 2. Key indicators of the manufacturing industry in the Pearl River Delta in 2017.

Category	Number of Enterprises		Gross industrial Output	
	Number	Proportion	Amount	Growth rate
Light textile	7,238	16.4	12,328.97	-2.3
Petrochemical	5,482	12.42	18,150.45	20.34
Mechanical and electrical equipment	14,259	32.3	27,938.77	-6.4
Electronics communication	5,115	11.6	36,467.75	12.92

A regional imbalance exists in the development of the manufacturing industry in the Pearl River Delta. The manufacturing scale and profit of Guangzhou, Shenzhen, Foshan, and Dongguan are much higher than that of other regions. From the perspective of industrial scale, the number of large-scale manufacturing enterprises in these four cities accounted for 70.16% of the total in the Pearl River Delta region in 2017. Employees in manufacturing enterprises accounted for 69.84% of the total employment. Industrial output accounted for 77.67% of the total output value of manufacturing enterprises. Assets accounted for 79.96% of the total assets of manufacturing enterprises, and profits accounted for 82.8% of the total profits of manufacturing enterprises in the Pearl River Delta.

4. Measurement of Manufacturing Industry Cluster and Industry Isomorphism in the Pearl River Delta

4.1. Measurement Indicators

4.1.1. Industry Aggregation Index

The most commonly used method to measure the industrial agglomeration index of a certain region is the location entropy index, also known as specialization rate, which judges whether an industry constitutes a regional specialized sector. This paper first uses the location quotient method (Equation (1)) to measure the degree of agglomeration and specialization of the manufacturing industry in the Pearl River Delta.

$$C_{ij} = \frac{P_{ij}/P_j}{\sum P_i/P} \quad (1)$$

where, P_{ij} represents the total industrial output value of industry i in City j , P_j represents the sum of the total industrial output value of all manufacturing industries in city j , $\sum P_i$ represents the sum of the industrial output value of the i industries in the 9 cities of the Pearl River Delta, and P represents the total output value of all the manufacturing industries in the 9 cities of the Pearl River Delta.

4.1.2. Industry Isomorphism Index

There are many measurement methods for the convergence of industrial structure. This paper adopts two accepted methods to measure the convergence degree of the manufacturing industry in the Pearl River Delta. The first is the structural similarity coefficient proposed by the International Industrial Research Center of the United Nations Industrial Development Organization (UVIDO). The coefficient is calculated by Equation (2).

$$S_{ij} = \frac{\sum X_{im}X_{jm}}{\sqrt{\sum X_{im}^2 \sum X_{jm}^2}} \quad (2)$$

where S_{ij} represents the similarity coefficient of industrial structure in region i and j , and X_{im} and X_{jm} represent the proportion of m sector in the industrial structure in region i and j respectively. If $S_{ij} = 1$, it indicates that the industrial structure of region i and j is completely the same. If $S_{ij} = 0$, it indicates that the industrial structure of region i and j is completely different. The value is between 0 and 1 and the larger the value is, the higher the similarity of industrial structure.

The second index is Krugman's industrial division of labor index. Krugman (1991) proposed the index to calculate the industrial structure difference and specialized division of labor or competition between regions when analyzing regionalization and studying international trade. The formula is as follows:

$$GSI_{ij} = \sum \left| \frac{P_{ij}}{P_j} - \frac{P_{ih}}{P_h} \right| \quad (3)$$

where, P_{ij} and P_{ih} respectively represent the total industrial output value of the i industries in j and h city, P_j and P_h represent the sum of the total industrial output value of all industries in j and h city.

Generally speaking, the difference index of industry structure is between 0 and 2. If the value is less than 0.8, it indicates that the manufacturing development of the two cities is homogenized. If the value > 0.8 indicates that the manufacturing structure varies among cities. The larger the isomorphism index is, the more obvious the difference in the industrial structure of the manufacturing industry between cities. On the contrary, if the industrial isomorphism index is smaller, the industrial convergence between regions become obvious.

4.2. Measurement Results and Analysis

4.2.1. Industrial Agglomeration Results

According to Equation (1), the degree of agglomeration of manufacturing industries in 9 cities of the Pearl River Delta in 2017 is calculated, and industrial agglomeration indexes of light textile, petrochemical, electromechanical equipment, and electronic information are obtained respectively.

Table 3. Industrial agglomeration index of 9 cities in the Pearl River Delta in 2017.

	Guang -zhou	Shen -zhen	Zhu -hai	Fo -shan	Hui -zhou	Dong -guan	Zhong -shan	Jiang -men	Zhao -qing
Light textile	0.92	0.75	0.51	1.21	0.11	1.27	0.5	1.61	1.24
Petrochemical	1.51	0.23	0.26	0.51	0.73	0.4	0.19	0.51	0.24
Mechanical and electrical equipment	1.67	0.29	1.1	0.75	1.09	0.51	0.71	0.75	0.25
Electronics communication	0.41	2.01	1.1	0.26	0.11	1.56	0.7	0.24	0.25

Foshan, Dongguan, Jiangmen, and Zhao Qing have a high concentration level in the production of the light textile manufacturing industry in 2017. Guangzhou has a high degree of agglomeration in the petrochemical manufacturing industry. Guangzhou, Zhuhai, and Huizhou have a high degree of concentration in the production of the electromechanical equipment manufacturing industry. Shenzhen and Dongguan have a high degree of agglomeration in the production of the electronic information manufacturing industry. The industrial agglomeration index of this industry in Shenzhen reaches 2, indicating that Shenzhen has a considerable scale in the production of electronic information. Dongguan has a considerable degree of agglomeration in the production of the electronic information industry. In addition to Zhongshan, Guangzhou, Shenzhen, Dongguan, Zhuhai, Foshan, Huizhou, Jiangmen, and Zhao Qing all have formed leading manufacturing industries with a certain agglomeration scale.

4.2.2. Result of Industrial Isomorphism

Firstly, according to the similarity coefficient of industrial structure, we investigated the degree of industrial structure convergence in the manufacturing industry of 9 cities in the Pearl River Delta. The calculation results in Table 4 show that, within the manufacturing industry, the manufacturing structure similarity coefficient between Shenzhen, Dongguan, and Huizhou is higher than 0.9, while the manufacturing structure similarity coefficient between Zhuhai, Zhongshan and Foshan is higher than 0.8, indicating that the manufacturing structure convergence phenomenon exists among these cities.

Table 4. Manufacturing similarity index of 9 Cities in the Pearl River Delta in 2017.

	Guang -zhou	Shen -zhen	Zhu -hai	Fo -shan	Zhong -shan	Dong -guan	Zhao -qing	Jiang -men
Shenzhen	0.35							
Zhuhai	0.48	0.67						
Foshan	0.47	0.35	1.00					
Zhongshan	0.58	0.59	0.88	0.86				
Dongguan	0.44	0.95	0.74	0.87	0.76			
Zhaoqing	0.45	0.34	0.38	0.61	0.58	0.51		
Jiangmen	0.57	0.35	0.59	0.72	0.75	0.55	0.78	
Huizhou	0.50	0.95	0.69	0.46	0.69	0.95	0.52	0.79

Secondly, according to Krugman's industrial division of labor index, the industrial isomorphism index of nine cities in 2017 is calculated and shown in Table 5.

There is a weak industrial isomorphism in the manufacturing industry of 9 cities in the Pearl River Delta. The average value of the specialization index is 0.6947. For example, there is a certain degree of convergence in the manufacturing industries between Foshan and Zhuhai, Zhongshan and Zhuhai, Zhongshan and Foshan, Dongguan and Shenzhen, Zhao Qing and Zhuhai, Zhao Qing and Foshan, Zhao Qing and Zhongshan, Jiangmen and Foshan, Jiangmen and Zhongshan, Jiangmen and Dongguan, Jiangmen and Zhao Qing. On the whole, Guangzhou and Shenzhen have a good degree of industrial specialization with other cities, while the manufacturing industries of Zhongshan, Zhao Qing, Jiangmen, and Huizhou converge with those of other cities is relatively common.

Table 5. Manufacturing industrial isomorphism index of 9 cities in the Pearl River Delta in 2017.

	Guang -zhou	Shen -zhen	Zhu -hai	Fo -shan	Zhong -shan	Dong -guan	Zhao -qing	Jiang -men
Shenzhen	0.81							
Zhuhai	1.04	0.75						
Foshan	1.00	0.98	0.57					
Zhongshan	0.66	0.83	0.38	0.44				
Dongguan	1.06	0.43	0.77	0.87	0.69			
Zhaoqing	0.74	0.93	0.62	0.50	0.52	0.82		
Jiangmen	0.99	1.14	0.58	0.33	0.37	0.51	0.36	
Huizhou	0.83	0.64	0.76	0.87	0.65	0.42	0.43	0.72

5. Desirability Analysis of Manufacturing Industry Isomorphism in Pearl River Delta

As the theoretical analysis points out, industrial agglomeration is beneficial. The biggest advantage is economies of scale. In the process of agglomeration of specialized industries in various regions, there is a large demand for intermediate products such as raw materials and fuels which attracts new manufacturers, foreign capital, and labor to continuously enter and strengthens the scale of agglomeration. Manufacturing enterprises in the agglomeration area share resources such as labor force and infrastructure to reduce production and transaction costs, promote the improvement of labor productivity, allow a high utilization efficiency of the labor force and capital in the agglomeration area, gradually improve the efficiency of economic growth, and drive the development of manufacturing industry in the Pearl River Delta. However, for the three major manufacturing cities of Guangzhou, Shenzhen, and Dongguan, several industrial agglomeration indexes all exceed 1.5. If the manufacturing enterprises in these regions are too concentrated and reach the state of crowding, the economic benefits brought by industrial agglomeration are weakened, which leads to the transformation of enterprises' economies of scale into diseconomies of scale. From this perspective, the overflow into the surrounding urban agglomeration industry transfer is lowered in crowded big cities and, at the same time, drives the industry agglomeration in a larger scope. Therefore, the adjacent region of industrial isomorphism has a broader range of industrial agglomeration than a city alone and is conducive to regional economic development. The effect of isomorphism on the Pearl River Delta manufacturing industries is quite ambiguous.

Firstly, according to the "13th Five-Year Plan for the Development of Advanced Manufacturing Industry in Guangdong Province", Shenzhen, Dongguan, and Huizhou are all high-end electronic information industry belts on the east bank of the Pearl River, while Zhuhai, Zhongshan, Foshan, Zhaoqing and Jiangmen are all advanced equipment manufacturing industries on the west bank of the Pearl River. The unified planning of manufacturing development at the policy level allows the similarity of the manufacturing industries developed in the above cities, which is one of the reasons for the convergence of manufacturing structures. Such industrial planning needs to be accepted as it helps to promote the development of Guangdong-Hong Kong-Macao Greater Bay Area into an advanced manufacturing center with global influence.

Secondly, the regional industrial structure convergence is not the same as repeated construction since not all of the industrial structure convergence hinder economic development. If the city's leading industry converges and at the same time, the industry growth rate is lower than the growth rate of other regional industries, the results weaken the city's leading industry competitiveness, which impacts economic growth and industrial isomorphism undesirable effects at this time. Zhongshan, Zhao Qing, Jiangmen and Huizhou, Zhuhai, and Foshan have a significant industrial convergence phenomenon with small scale and low profit. External introduction and herd-following behaviors may lead to non-desirable isomorphism.

Thirdly, the convergence of industrial structure is also caused by the similarity of resource factor endowment. Zhou and Jiang (2009) stated that consistent or similar natural resource and labor resource structure of neighboring provinces and cities are important factors for industrial isolation and promoting industrial agglomeration in cities. Of course, the fluidity and secondary allocation of factor resources are also important factors affecting the industrial structure. The fluidity leads to the differentiation of industrial structure, but the factor market segmentation caused by local protection may lead to the similarity of industrial structure. The uniformity of resource endowment caused by local protection makes the industrial structure similar and undesirable. Of course, the negative effects should not be exaggerated too much.

6. Conclusions and Policy Suggestions

The index of industrial isomorphism based on the calculation of 9 cities of the Pearl River Delta manufacturing industrial structure is analyzed in this study. Every city has a certain professional level of leading industry which forms the basic pattern of

industry complement with each other. There is a certain degree of industrial convergence in Zhongshan, Zhao Qing, Jiangmen, Huizhou, Zhuhai, Foshan, Dongguan, and other cities that affects the competitiveness of the long-term economic development. At present, the construction of Guangdong-Hong Kong-Macao Greater Bay Area is one of the keys to China's regional development strategy. The optimization and upgrading of the manufacturing industry are particularly important. Different plans are needed for how to promote the development of the advanced manufacturing industry and the upgrading of industrial structure.

Firstly, Guangzhou and Shenzhen need to continue to enhance the international influence of the city through upgrading and optimization of industrial structures and clusters formed by leading industries. In the construction of Guangdong-Hong Kong-Macao Greater Bay Area, a world-class city with dominant power and influence is still missing. Hong Kong, Guangzhou, and Shenzhen, for example, are among the world's first-tier cities, but they lag behind London and New York in influence and international competitiveness, according to the 2018 Global Cities Rankings released by the Globalization and World-class Cities Study Group (GaWC). In the construction of the world-class Bay area, a distinctive industrial cluster system has been formed, and a high degree of agglomeration has been achieved in the field of characteristic industries. This requires Guangzhou and Shenzhen to continue to establish a mature industrial division of labor and cooperation system through industrial upgrading and coordination.

Secondly, the regional industrial structure upgrade and industry division of labor caused by industrial structure convergence need to proceed. The government has to fully respect the objective law of industrial structure, strengthen the industrial planning, formulation, and implementation of regional cooperation mechanism to provide the basic role of the market in the allocation of resources, clarify the positioning of cities, encourage the development of product differentiation, and promote the division of labor and cooperation within cities.

Thirdly, the improvement of industrial convergence is needed to strengthen the division of labor and cooperation in strategic emerging industries of urban agglomeration and ensure the upgrading of industrial structure. Based on similar resource endowment and upgrading industrial isomorphism in transformation, under normal circumstances, it also leads to desirability isomorphism and enhance the scale effect of industrial agglomeration.

Funding: "This research did not receive external funding" or "This research was funded by NAME OF FUNDER, Grant No. XXX".

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Gugler, K., & Pfaffermayr, M. (2004). Convergence in Structure and Productivity in European Manufacturing? *German Economic Review*, 5(1): 61–79.
2. Jiang, S.Y. (2005). Regional Industry Structure in China. *Researches in Chinese Economic History*, 1: 133–142.
3. Jiang, F.X., & Su, W.J. (2012). On the Impact of High-Tech Industrial Isomorphism on Regional Economic Growth in the Yangtze River Delta Area: Based on a Spatial Econometric Model. *Jiangsu Social Sciences*, 3: 77–82.
4. Luo, N.S., & Tan, J. (2016). A Research about Impact of Regional Industry Isomorphism on Industrial Efficiency. *Industrial Technological and Economy*, 35(2): 81–89.
5. Palan, N., & Schmiedeberg, C. (2010). Structural Convergence of European Countries. *Structural Change and Economic Dynamics*, 21(2): 85–100.
6. Qin, C.L., & Pan, D.D. (2018). Industrial Structure Convergence and Desirability in Guangdong-Hong Kong-Macao Great Bay Area. *Review of Economy and Management*, 3: 15–25.
7. Wang, W.J., & Fan, H.J. (2008). Analysis on the Reasons of the Convergence of Regional Industrial Structure in China and Its Economic Impact. *Contemporary Finance and Economics*, 1: 85–89, 101.
8. Yu, D.H., & Zhang, K. (2020). Factor Market Segmentation, Convergence of Industrial Structure and Advanced Development of Manufacturing Industry. *Research on Economic and Management*, 41(1): 36–47.

Publisher's Note: IJKII stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Copyright: © 2021 The Author(s). Published with license by IJKII, Singapore. This is an Open Access article distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/) (CC BY), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.