

Retraction

Retracted: Study on Agglomeration Level and Effect of Equipment Manufacturing Industry in the Yangtze Delta Urban Agglomeration

Mathematical Problems in Engineering

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This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their

agreement or disagreement to this retraction. We have kept a record of any response received.

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- [1] M. Zhou, S. Li, and Y. Wu, "Study on Agglomeration Level and Effect of Equipment Manufacturing Industry in the Yangtze Delta Urban Agglomeration," *Mathematical Problems in Engineering*, vol. 2021, Article ID 9957049, 9 pages, 2021.

Research Article

Study on Agglomeration Level and Effect of Equipment Manufacturing Industry in the Yangtze Delta Urban Agglomeration

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This paper analyzes the agglomeration level and agglomeration effect of 8 subindustries of equipment manufacturing industry and 26 prefecture-level cities in the Yangtze River Delta (YRD). From the perspective of industry, the agglomeration change trend of 8 subsectors of equipment manufacturing industry from 2006 to 2016 in the Yangtze River Delta Urban Agglomeration (YRDUA) is analyzed. From the perspective of cities, the spatial differences of equipment manufacturing agglomeration degree in 26 prefecture-level cities in the YRDUA are discussed. By using CES production function, the agglomeration effect of equipment manufacturing agglomeration is studied. The results show that the YRDUA has formed an agglomeration pattern of equipment manufacturing industry, with Shanghai as the core, and Hefei, Hangzhou, Suzhou, and Nanjing as the auxiliary cities, and the overall agglomeration effect in the region is relatively obvious.

1. Introduction

Equipment manufacturing industry is the focus of implementing the strategy of manufacturing power, and it is also the key to effectively improve the global competitiveness. There are obvious regional differences in the development level of China's equipment manufacturing industry, which is showing a stair-like declining feature from the east to the west [1]. So, clearly dividing the spatial distribution of equipment manufacturing industry in urban agglomeration is helpful to put forward the industrial development strategy [2]. The Yangtze River Delta Urban Agglomeration (YRDUA) is an important equipment manufacturing base in China with convenient transportation and superior geographical position. In the 13th Five-Year (2016–2020) Plan for Promoting the Development of High-end Equipment Manufacturing Industry in Shanghai, it is proposed to grasp the trend of high-end, intelligent, independent, open, service-oriented equipment manufacturing industry, promote industrial agglomeration development, and give full play to

the agglomeration radiation and leading role of industrial bases. Zhejiang, Jiangsu, and Anhui have also released their 13th Five-Year Development Plans for the Equipment Manufacturing Industry. However, the status of the equipment manufacturing industry in the YRDUA is gradually declining. Although the industrial scale is still expanding, the performance is lower than the national average level [3]. At the same time, the distribution of manufacturing enterprises in the YRDUA is unbalanced. With the change of geographical distance, the spatial agglomeration trend is strong first and then weak [4].

According to the Yangtze River Delta Urban Agglomeration Development Plan approved by the State Council, the YRDUA covers 26 cities, including Shanghai, Nanjing, Wuxi, Changzhou, Suzhou, Nantong, Yancheng, Yangzhou, Zhenjiang, Taizhou (in Jiangsu Province), Hangzhou, Ningbo, Shaoxing, Huzhou, Jiaxing, Jinhua, Zhoushan, Taizhou (in Zhejiang Province), Hefei, Wuhu, Ma'anshan, Tongling, Anqing, Xuancheng, Chizhou, and Chuzhou. With the YRDUA regional integration rising as a national

strategy, what are the changes in the development status and trend of equipment manufacturing industry in the Yangtze River Delta? Taking the YRDUA as the research object, this paper makes an empirical study on the agglomeration degree and effect of the equipment manufacturing industry in the region and, thus, to comprehensively grasp the development process, agglomeration trend and agglomeration effect of the equipment manufacturing industry in the YRDUA.

2. Analysis on the Agglomeration Level

The YRDUA is the frontier of China's economic development, accounts for only 2.3% of China's total area, with a population of 225 million, and contributes about a quarter of the China's GDP. The equipment manufacturing industry is more mature in this area than the rest of China. The agglomeration level of equipment manufacturing industry in 8 subsector industries and 26 prefecture-level cities in the YRDUA has been studied in this paper.

2.1. Method. Generally, many methods have been adopted to measure the degree of industrial agglomeration [5], such as EG index [6], location entropy, industry concentration, and spatial Gini coefficient [7], and Lin and Zhu [8] used EG

index and CR_n to calculate the agglomeration degree of manufacturing industry. In addition, Xu and Chen [9] used longitude and latitude coordinates to study the manufacturing agglomeration phenomenon of China's manufacturing enterprises; Sun and Zhang [10] calculated the agglomeration level of China's high-tech manufacturing industry based on the standard deviation ellipse method of spatial statistics.

Considering the accuracy of industrial agglomeration measurement, this paper selects the geographic concentration index established by Ellison and Glaeser [11]. On the one hand, based on the time span from 2006 to 2016, this paper analyzes the agglomeration trend of the equipment manufacturing industry in the YRDUA in 11 years; on the other hand, the spatial differences of the agglomeration degree of the equipment manufacturing industry have also been studied in 2016 in terms of 26 prefecture-level cities in the YRDUA.

Suppose that there are N enterprises in an industry of an economy (country or region), and the economy is divided into M geographical regions, and the N enterprises are distributed in M regions. The calculation formula of industrial geographic concentration index established by Ellison and Glaeser is as follows:

$$EG = \frac{G - (1 - \sum_i x_i^2)H}{(1 - \sum_i x_i^2)(1 - H)} = \frac{\sum_{i=1}^M (S_i - x_i)^2 - (1 - \sum_{i=1}^M x_i^2) \sum_{j=1}^N z_j^2}{(1 - \sum_{i=1}^M x_i^2)(1 - \sum_{j=1}^N z_j^2)}. \quad (1)$$

H is the Herfindahl index, which indicates the size distribution of enterprises in the industry based on the number of employees, in which N refers to the number of enterprises in the industry and X represents the total market size.

$$H = \sum_{j=1}^N z_j^2 = \sum_{j=1}^N \left(\frac{x_j}{X}\right)^2, z_j^2 = \frac{x_j}{X}, \quad (2)$$

where z_j represents the market share of enterprises j and x_j represents the scale of enterprise j . The larger the EG index is, the higher the degree of industrial agglomeration is, and vice versa.

2.2. Data. The clustered sample data of equipment manufacturing industry are selected from the Statistical Yearbook of 26 prefecture-level cities in the Yangtze River Delta Urban Agglomeration and the Shanghai Statistical Yearbook, Zhejiang Statistical Yearbook, Anhui Statistical Yearbook, and Jiangsu Statistical Yearbook, from 2007 to 2017. Due to the adjustment of the National Economic Industry Classification in 2012, the transportation equipment industry was divided into automobile manufacturing industry and railway, shipping, aerospace, and other transportation equipment manufacturing industry. In order to ensure the accuracy of the analysis, this paper divides the data of 11 years into two periods of 2007–2012 and

2013–2017 and calculates them, respectively. In addition, the distribution of employees in the statistical yearbook has not been indicated, so it is replaced by the number of enterprises and the total number of employees.

2.3. Evaluation Results of Agglomeration. According to the industrial geographic concentration index formula proposed by Ellison and Glaeser, the geographic concentration index of equipment manufacturing industry in the YRDUA in 11 years is calculated, as shown in Figure 1.

Elision and Glaeser believe that the geographical concentration index (γ) can be divided into the following three situations:

- (a) $\gamma > 0.05$, the high industrial agglomeration in the region
- (b) $0.02 \leq \gamma \leq 0.05$, the uniform industrial distribution in the region
- (c) $\gamma < 0.02$, the low industrial agglomeration in the region

According to the abovementioned criteria, we classify the geographical concentration index of the eight major equipment manufacturing industries in 2016, as shown in Table 1.

The average and median of geographic concentration index in 2006, 2010, 2014, and 2016 are calculated for the purpose of understanding the change trend of

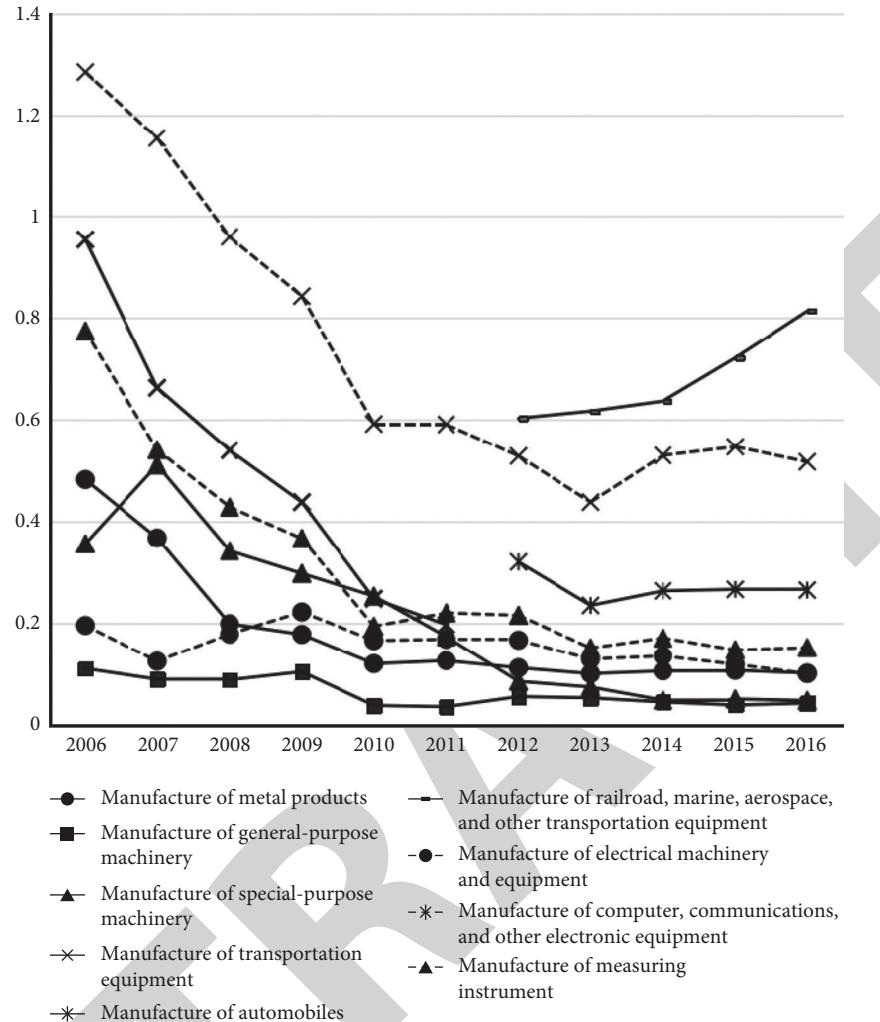


FIGURE 1: Geographical concentration index of equipment manufacturing industry (2006–2016).

TABLE 1: Classification of agglomeration degree of equipment manufacturing industries (2016).

	Industry and industry code	Geographic concentration index
$\gamma > 0.05$ (6 industries)	Manufacture of metal products (C33) Manufacture of automobiles (C36) Manufacture of railroad, marine, aerospace, and other transportation equipment (C37) Manufacture of electrical machinery and equipment (C38) Manufacture of computer, communications, and other electronic machinery (C39) Manufacture of measuring instrument (C40)	0.1014 0.2646 0.8138 0.1004 0.5169 0.1515
$0.02 \leq \gamma \leq 0.05$ (2 industries)	Manufacture of general-purpose machinery (C34) Manufacture of special-purpose machinery (C35)	0.0423 0.0475
$\gamma < 0.02$ (0 industry)		

Note: γ denotes the geographical concentration index.

agglomeration degree of equipment manufacturing industry in the YRDUA, and the result is as shown in Table 2.

From abovementioned table and figure, we can see that, first, the equipment manufacturing industry in the whole Yangtze River Delta urban agglomeration has a relatively

high degree of agglomeration and formed a certain scale in the 11-year time span. However, the degree of agglomeration has been declining in a straight line (the average value decreased from 0.59 to 0.21) in the first 6 years, and it has a slow upward trend and gradually stabilized (the average

TABLE 2: Average and median of industrial geographic concentration index.

Year	2006	2010	2014	2016
Average	0.59367	0.22983	0.24165	0.2548
Median	0.4822	0.1935	0.1528	0.12645

value increased from 0.21 to 0.25) in the last 5 years. This is due to the rise of information technology and the Internet and higher value-added industries emerged, such as robotics, VR and AR technology, and material gene technology in the past 10 years. In contrast, the equipment manufacturing industries have the features of low added value, low technology, and weak competitiveness of products. So, with the rise of manufacturing industry in the central and western regions, Bohai Rim, and other urban agglomerations, the equipment manufacturing industry in the YRDUA has been transferred outward in a gradient way.

Second, the decline rate of transportation manufacturing industry was as high as 80% in the period of 2006–2011, followed by metal, general, and instrument manufacturing industries with a decline rate of about 70%. The main reason is that the enterprises of these industries were small in scale, and they were prone to the dispersing and duplicating investments which affect the degree of agglomeration to a certain extent. Moreover, the national industry classification standards have been adjusted since 2012, and then, the railway, shipping, and aerospace manufacturing industries have been significantly increased by 35%, mostly benefitted from very high attention and the strong policy support given by the government. Meanwhile, the other industries are still in a downward trend, but the decline is not so sharp and tends to be stable.

Thirdly, it has an obvious agglomeration effect and relatively intensive distribution of the equipment manufacturing industry in the YRDUA in 2016. The number of industries whose geographical concentration index is greater than 0.05 is more than 75%, while the number between 0.02–0.05 is less than 20%. It can be seen that the geographical advantages, rich resources, and government cultivation in the region have played a key role. However, at the same time, the equipment manufacturing industry in various subsectors is also more differentiated. Among them, the concentration degree of shipbuilding and aerospace manufacturing is the highest, which is 0.81, while the concentration degree of general and special equipment manufacturing is only 0.04, which also reflects the relatively average distribution of capital-intensive manufacturing industries in the YRDUA. In addition, the computer, communication, and other electronic equipment manufacturing industries and automobile manufacturing industries are also highly concentrated and consistent with the reality that the YRDUA is focusing on the development of high-tech industries represented by information industry and transportation rail industry.

After 10 years of development, the agglomeration of equipment manufacturing industry in the YRDUA has taken shape basically. The agglomeration degree distribution of the 8 major equipment manufacturing industries in the subdivided cities of the YRDUA in 2016 is shown in Table 3 and Figure 2.

According to the abovementioned data, it can be seen that, first, the agglomeration and distribution of equipment manufacturing industry in YRDUA have distinct hierarchy. The

east, north, and south are relatively concentrated, while the middle and west are relatively scattered. Therefore, the regional agglomeration of the YRDUA can be divided into four levels. The top level is Shanghai, as the key development city of the equipment manufacturing industry in the YRDUA, which contains the largest number of equipment manufacturing industries and has a high degree of agglomeration. The second level is Nantong, Hefei, Taizhou, and Yancheng. The distribution of equipment manufacturing industry in these four cities is relatively concentrated, including four industries, only second to Shanghai. The third level is Zhenjiang, Tongling, Nanjing, Yangzhou, Shaoxing, and Hangzhou. These six cities only have a high degree of agglomeration in two or three industries which all have a great influence. The fourth level is Zhoushan, Ma'anshan, Taizhou, and other cities; the rest of these cities only occupy a large proportion in one industry, and most of them are adapted to local conditions and have certain regional characteristics.

Second, the provinces and cities in the YRDUA have formed different advantageous industries, and the characteristics of regional division of labor have emerged in the process of agglomeration. Shanghai mainly focuses on automobile and computer manufacturing industries and has developed a relatively complete industry chain and industrial layout of civil aviation, such as the R&D center of Zhangjiang, COMAC, CAAC, and Aviation Industry Group. Electrical machinery, instrument, and meter manufacturing industries have a high concentration degree in Jiangsu Province, and these industries belong to the traditional heavy chemical and equipment industries. Zhejiang Province mainly focuses on railway, aerospace, and general manufacturing industries, which reflect that Zhejiang Province has made full use of geographical resources to develop key advantageous industries. Alsp, Hefei is the best developed city in Anhui Province, with a number of leading enterprises in AI industry, such as iFLYTEK and Xinhua.

3. Analysis on the Agglomeration Effect

On the basis of the analysis of the present situation of agglomeration, many scholars have carried out further extended research. To cultivate new momentum for economic growth, the YRDUA should pay more attention to the agglomeration effect of high-end manufacturing industries [12]. Xu and Wang [13] believe that the positive synergistic effect of manufacturing agglomeration and technology introduction has a weak negative impact on green innovation performance. Liang and Cong [14] found that the effect of manufacturing agglomeration on the growth of total factor productivity in central cities was not obvious. In this paper, CES production function is selected to quantitatively measure the agglomeration effect of each subdivision of equipment manufacturing industry in the YRDUA, thus to find the change of its agglomeration effect from 2006 to 2016 and judge the agglomeration effect of equipment manufacturing industry in the region.

TABLE 3: The main regional distribution of equipment manufacturing industry.

Industry code	Main regional distribution (agglomeration degrees)
C33	Wuxi (1.14), Nantong (1.13), Zhenjiang (1.02), Taizhou (Jiangsu province) (1.93), Zhoushan (2.47), and Ma'anshan (1.05)
C34	Shanghai (1.49), Nantong (1.04), Yancheng (1.42), Huzhou (1.05), Hefei (1.43), Tongling (1.03), and Anqing (1.07)
C35	Shanghai (0.79), Taizhou (Jiangsu province) (0.97), Yancheng (0.84), and Yangzhou (0.88)
C36	Shanghai (2.25), Nanjing (1.16), Yancheng (1.08), Shaoxing (1.07), and Tongling (1.46)
C37	Taizhou (Jiangsu province) (2.21), Taizhou (Zhejiang province) (10.96), and Hefei (1.21)
C38	Wuxi (1.23), Changzhou (1.46), Nantong (1.34), Yangzhou (1.72), Zhenjiang (1.38), Taizhou (Jiangsu province) (1.05), Hangzhou (1.01), Shaoxing (1.02), Jiaxing (1.16), Ma'anshan (1.93), and Tongling (1.65)
C39	Shanghai (1.70), Nanjing (1.24), Suzhou (2.22), and Hefei (1.14)
C40	Shanghai (1.03), Nanjing (1.82), Nantong (2.89), Yancheng (1.07), Yangzhou (3.18), Zhenjiang (2.47), Taizhou (Jiangsu province) (1.4), Hangzhou (1.45), Ningbo (1.17), and Hefei (1.35)

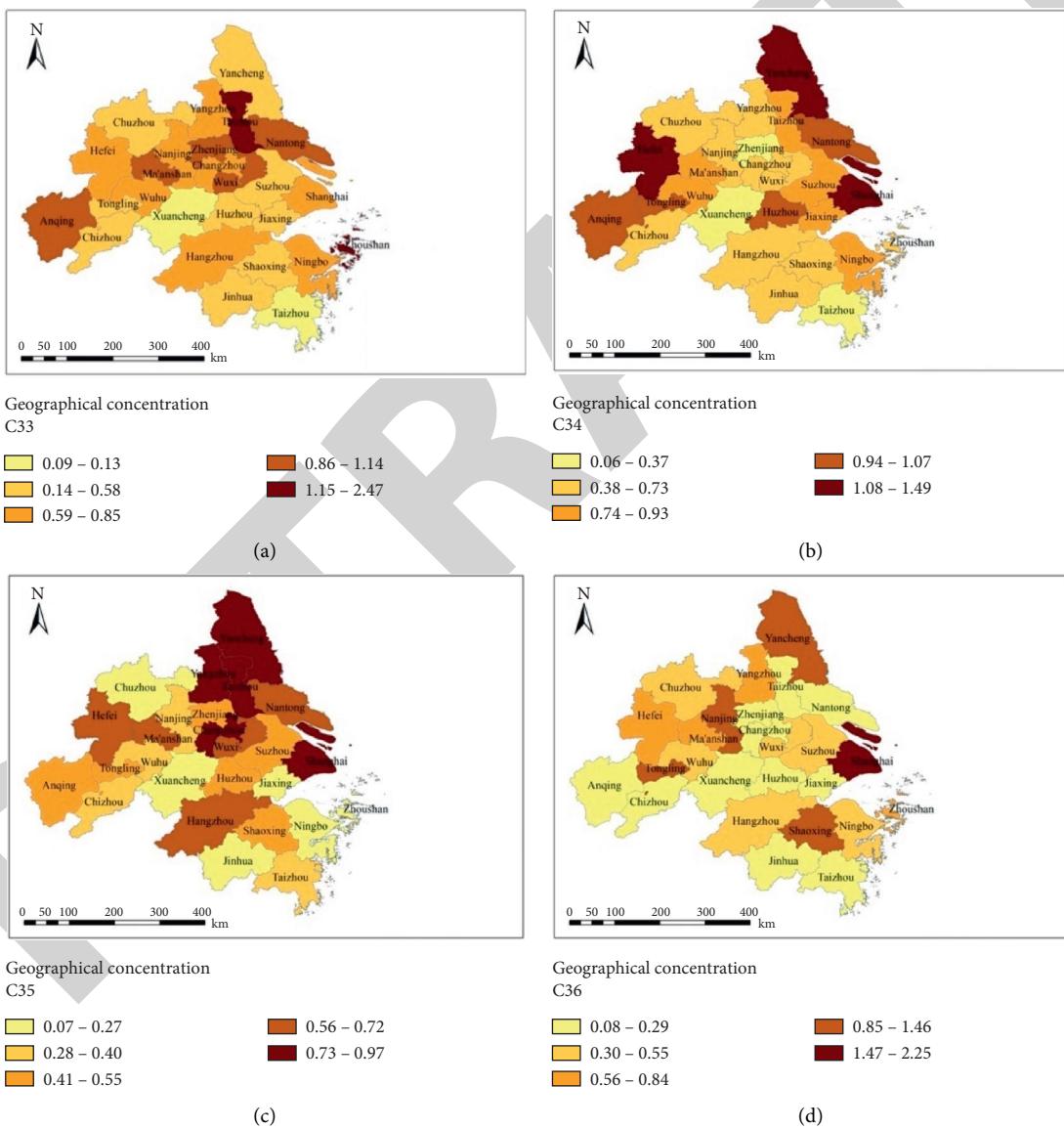


FIGURE 2: Continued.

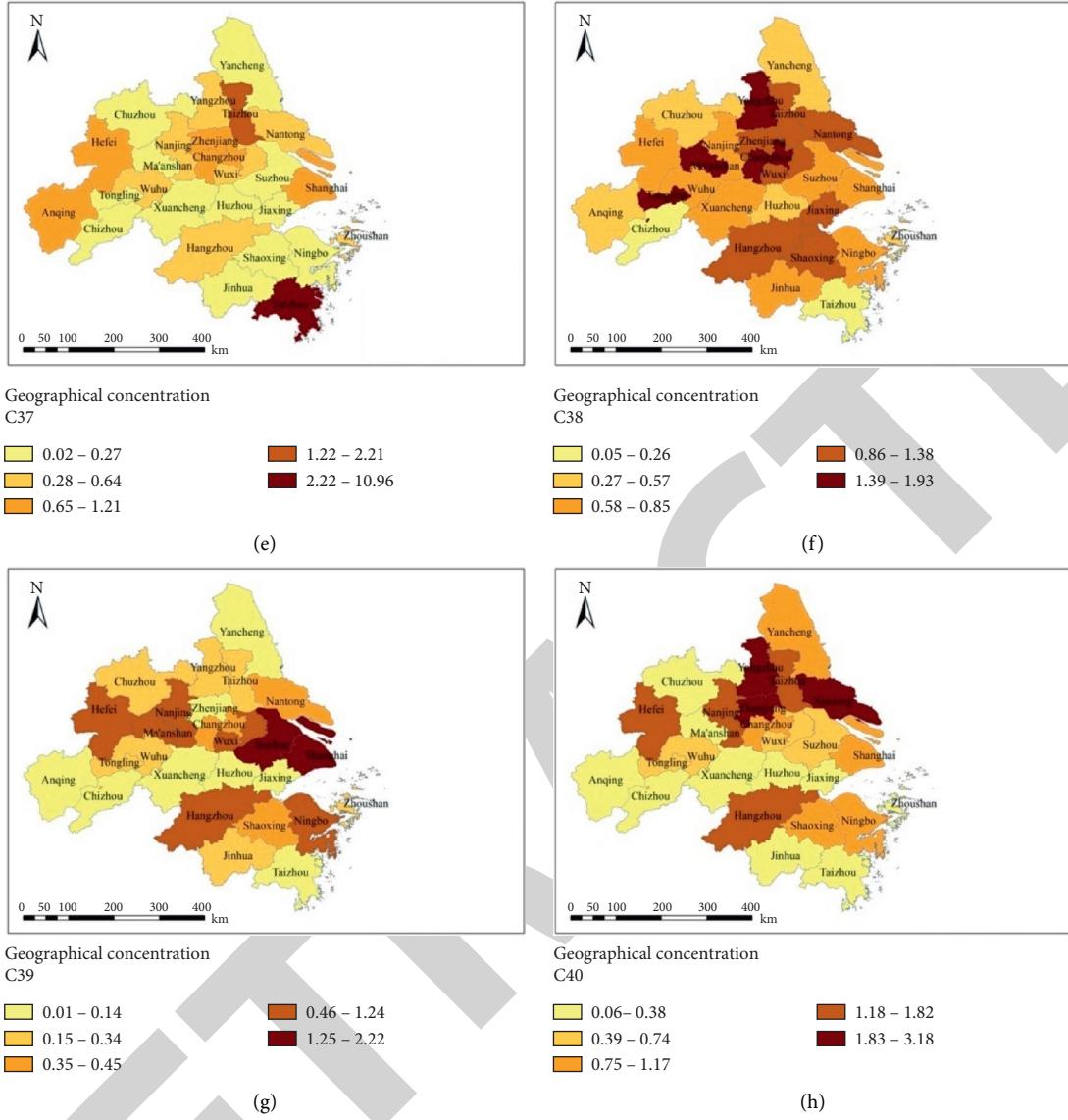


FIGURE 2: The distribution of equipment manufacturing industry by geographical concentration.

3.1. Measurement Methods. The production function is selected to measure the agglomeration effect of eight equipment manufacturing industries in the YRDUA (represented by H), where P represents the profit earned by the industry, Q represents the total production value of the industry, K represents the net value of fixed assets of the industry in a certain year, β represents the profit elasticity of output, and γ represents the profit elasticity of fixed assets occupation. See equations (3)–(5) for details.

$$W = AQ^\beta L^\gamma, \quad (3)$$

$$P = AQ^\beta K^\gamma, \quad (4)$$

$$h = \frac{(1 + \gamma)}{(1 - \beta)}. \quad (5)$$

3.2. Data. According to the relevant data selected from China Industrial Economy Yearbook, from 2006 to 2016, and Statistical Yearbook of Shanghai, Jiangsu, Zhejiang, and Anhui, the total industrial output value, total profit, and net fixed assets of the equipment manufacturing industry can be obtained. Additionally, the country began to adopt the new GB/T4754-2011 since 2012, so the automobile manufacturing industry, railway, ship, and aerospace and other transportation equipment manufacturing industries are merged into the transportation equipment manufacturing industry to unify the caliber.

3.3. Analysis. In this paper, the logarithm of both sides of the equation $P = AQ^\beta K^\gamma$ is taken to obtain the following function:

$$\ln P = \ln A + \beta \ln Q + \gamma \ln K. \quad (6)$$

TABLE 4: H value of equipment manufacturing industry.

Industry code	Year						
	2006–2010	2007–2011	2008–2012	2009–2013	2010–2014	2011–2015	2012–2016
C33	2.149	-6.329	-2.520	-3.982	6.029	9.184	5.984
C34	-3.179	-0.880	-0.464	-1.287	5.081	8.111	23.817
C35	2.148	-5.400	-1.522	-1.791	2.291	2.863	9.002
C36 & C37	-0.499	-0.444	-0.206	-0.268	-0.543	-0.554	-1.458
C38	2.501	1.572	-9.195	11.066	5.364	-10.117	-3.388
C39	-0.623	-3.217	-1.209	-0.657	-0.848	-0.772	-0.834
C40	-32.896	-0.453	-0.632	-3.299	-19.963	20.654	-2.602

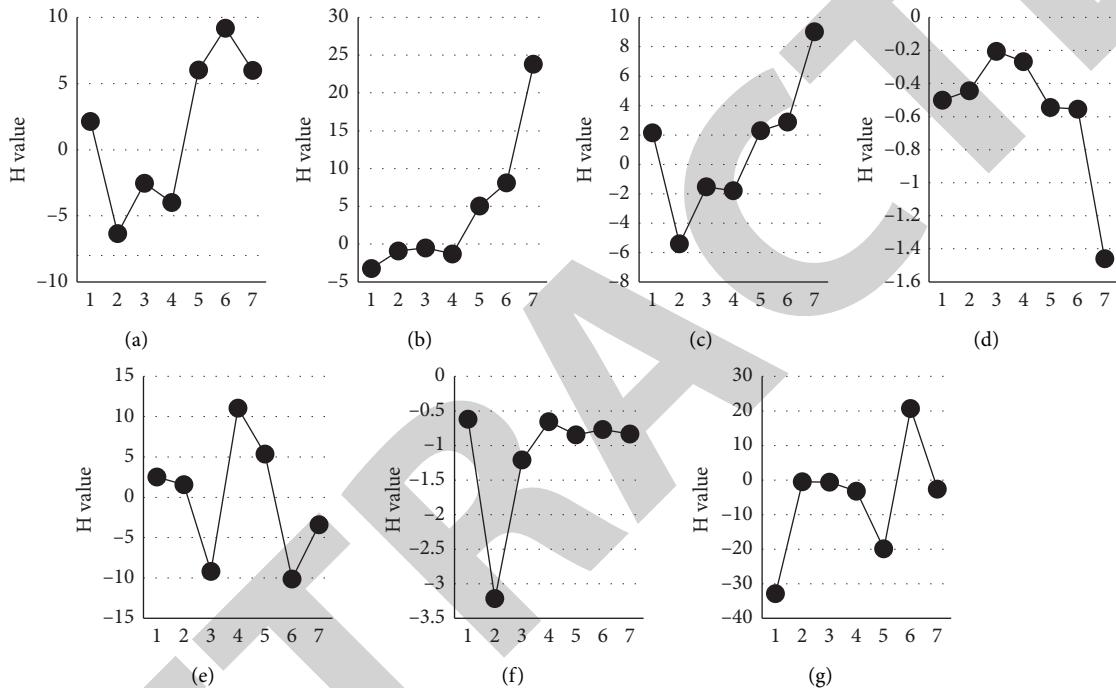


FIGURE 3: H value broken line of the agglomeration effect of equipment manufacturing industry. (a) Regression measurement time span of C33. (b) Regression measurement time span of C34. (c) Regression measurement time span of C35. (d) Regression measurement time span of C37. (e) Regression measurement time span of C38. (f) Regression measurement time span of C39. (g) Regression measurement time span of C40.

This model is based on the panel data from 2006 to 2016. $\ln P$ is taken as the dependent variable since the time span is only 11 years. $\ln Q$ and $\ln K$ are taken as the variables to carry out a 5-year moving regression. H value can be obtained from the values of β and γ . The results are shown in Table 4.

H value can be calculated from the following equation:

$$h = \frac{(1 + \gamma)}{(1 - \beta)}. \quad (7)$$

When H value is greater than or equal to 1, it indicates that the whole industry has agglomeration effect. The higher the value, the greater the agglomeration effect. When H value is less than 1, it indicates that the agglomeration effect of the whole industry is relatively low. The H value broken line of equipment manufacturing industry in the YRDUA is shown in Figure 3.

According to the abovementioned calculation results, we can know that, first, only general-purpose, special-purpose, and metal manufacturing industries have an obvious agglomeration effect. As can be seen from Figure 3, the general specialized and computer manufacturing industries whose H value keeps increasing but has not yet reached the highest point. Among them, the general equipment manufacturing industry has the most distinct agglomeration effect and has been showing an increasing trend, reaching 23.82 during 2012–2016.

After experiencing the low point from 2007 to 2011, the agglomeration effect of the manufacturing industry of special equipment gradually ascended and reached 9.02. However, although the agglomeration effect of communication equipment manufacturing industry dropped to the lowest level from 2007 to 2011, it quickly picked up and gradually increased, and finally, the increase tended to be flat

and the H value was always less than 1, indicating that the agglomeration effect is uneconomical.

Second, the H value in the metals, transportation, electrical and equipment, and instrument and instrumentation industries passed the peak but has been declining among them; the metal products industry began to pick up significantly from the initial continuous decline to 2009 and reached the highest point in 2015. Although the metal products industry was in a downward trend from 2012 to 2016, its H value kept more than 1, so its agglomeration effect is economical. On the whole, the agglomeration effect of electrical and machinery manufacturing industry is in a downward trend. Although there was a significant increase from 2009 to 2013, it still cannot stop the decline in the later period. The manufacturing industry of transportation equipment has been in a downward trend from 2008 to 2016, with the lowest value of -1.47. The overall trend of the instrument and instrument manufacturing industry is upward. Despite that there was a decline in the middle period, the decline range was significantly reduced, and it reached the highest point of 20.65 during the period from 2011 to 2015.

4. Conclusions

Based on the geographic concentration index and production function, this paper obtained the agglomeration level and effect of equipment manufacturing industry in the YRDUA and, thus, drew the following conclusions:

- (1) The equipment manufacturing industry in the YRDUA has a complete category with the high level of geographical agglomeration, but the decline trend is more noticeable. This shows that as the region with the fastest economic growth and the strongest manufacturing base in China, the YRDUA has highly attracted a large number of equipment manufacturing enterprises to set up factories and develop here. In particular, computer, automobile, and electrical machinery and equipment manufacturing industries, which together account for about 80% of the geographical concentration of equipment manufacturing industry, are the main body of equipment manufacturing industry in the YRDUA and also the three key development industries. However, with the development of old industrial bases such as Northeast China being favored by the policy support, the competitiveness of equipment manufacturing industry in the YRDUA has obviously declined.
- (2) The YRDUA has formed an agglomeration pattern of equipment manufacturing industry, with Shanghai as the core and Hefei, Hangzhou, Suzhou, and Nanjing as the auxiliary cities. For example, automobile and computer manufacturing industries are most concentrated in Shanghai, and Hefei is focused on AI industry, while electronic machinery and measuring instrument have the highest concentration in Suzhou and Nanjing. Along with respective advantages and resources, they have developed the characteristic and specialized industries.

(3) The overall agglomeration effect of the equipment manufacturing industry in the YRDUA is relatively distinct, but it has been on a downward trend. The decline rate tends to be stable until 2014, which is similar to the trend of the agglomeration degree. In addition, the agglomeration effect of traditional equipment manufacturing industry shows an upward trend, indicating that industrial upgrading and continuous technological innovation have greatly enhanced the competitiveness of traditional equipment manufacturing industry in the YRDUA. Although the agglomeration effect of high-end equipment manufacturing industry is not obvious, its development speed is gradually accelerating.

According to abovementioned analysis, we can find that some of the reasons for current agglomeration status are the insufficient integration of industrialization and informatization, the weak technology innovation abilities, unreasonable industrial structure, the overcapacity of the traditional equipment manufacturing industry, the large proportion of capital-intensive manufacturing industry, and the small proportion of technology-intensive manufacturing industries in the YRDUA which all those problems which need to be addressed.

5. Suggestions

Recently, China positioned the YRDUA as a world-class center for equipment manufacturing industry. Aiming at such vision, our suggestions are as follows.

First, innovation is the driving force for the development of the equipment manufacturing industry. By increasing investment in scientific research funds and encouraging independent research and development of key technologies and accelerating the transformation of research achievements from samples to products and then to commodities, the total factor productivity of the equipment manufacturing industry can be improved and the traditional equipment manufacturing industry can be promoted to the high end of the value chain accordingly.

Second, structural adjustment is the key point of the development of the equipment manufacturing industry. By focusing on the key areas of the equipment manufacturing industry, speeding up the integration of new technologies and new materials, such as information and intelligence, into the traditional manufacturing industry, and reducing ineffective and low-end supply could be the solution for this issue.

Third, the effective diffusion of the agglomeration effect of equipment manufacturing industry in the YRDUA should be improved. Optimizing the regional layout of equipment manufacturing industry can contribute to regional agglomeration quality. Shanghai has put forward the "Industrial Map" to improve the level of intelligence, promote the application of new materials and new equipment, and establish a number of characteristic and specialized high-end equipment demonstration projects in accordance with the industrial advantages of each region.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

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