Research Article

The Impact of Inclusive Finance on High-Quality Economic Development of the Yangtze River Delta in China

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As a new service system of finance, inclusive finance emphasizes on better meeting the needs of people’s livelihood at a reasonable and affordable cost. Inclusive finance can effectively solve the problems existing in the process of high-quality economic development by promoting regional coordinated development and narrowing the income gap between urban and rural areas. Firstly, this paper constructs the inclusive financial development level measurement index system and high-quality economic development measurement index system, uses these two index systems to measure the development of inclusive finance and high-quality economy of the Yangtze River Delta in China from 2010 to 2019, and then empirically analyzes the impact of Inclusive Finance on high-quality economic development in the Yangtze River Delta by using the panel threshold model. The results show that the inclusive financial development level and high-quality economic development level of cities under the jurisdiction of the Yangtze River Delta have increased steadily year by year, but the development level differentiation among different cities is obvious. Inclusive finance has a threshold effect on high-quality economic development. When the inclusive finance index is lower than 0.358, inclusive finance is not conducive to high-quality economic development. When the inclusive financial development index is between 0.358 and 0.522, inclusive finance promotes high-quality economic development, but the effect is weak. When the inclusive financial development index is greater than 0.522, inclusive finance can significantly promote high-quality economic development.

1. Introduction

In 2017, the 19th CPC National Congress pointed out that China’s economy has shifted from high-speed growth to high-quality development. High quality economic development is the coordinated development of growth efficiency and growth quality. It is to meet the needs of people’s livelihood and promote regional balanced development. From the perspective of people’s livelihood orientation, high-quality economic development should be reflected in improving the supply level of public goods and services, strengthening the construction of basic people’s livelihood, enhancing social fairness and justice, and ensuring and improving people’s livelihood. From the perspective of system balance, high-quality economic development should be systematic and comprehensive, embodied in four aspects: coordination, sharing, innovation, and sustainability. After the 19th CPC National Congress, many important meetings of the Communist Party of China have stressed that China should vigorously develop Inclusive Finance and improve the ability of the financial industry to serve the real economy, so as to promote high-quality economic development. Inclusive finance is a new financial service system, which is committed to making all groups, especially the poor and vulnerable groups, enjoy low threshold and fair financial services at a reasonable and affordable cost. Since 2005, inclusive finance has gradually become an effective way for many developing countries to solve poverty and promote economic development. However, the development of inclusive finance needs a lot of financial infrastructure construction, and its development in various regions is unbalanced. Therefore, the development of inclusive finance...
shows the characteristics of time lag, and its impact on the high-quality development of regional economy has nonlinear characteristics.

The Yangtze River Delta in China is one of the most economically active regions. However, due to a series of problems such as unbalanced regional development and unreasonable flow of production factors, its high-quality economic development is restricted. Inclusive finance can promote the rational flow of production factors, alleviate the imbalance of regional development, and effectively solve the problems existing in the economic development of the Yangtze River Delta. Therefore, empirical research on the impact of inclusive finance on high-quality economic development in the Yangtze River Delta based on measurement methods can fully understand the high-quality economic development and obstacles in the Yangtze River Delta and provide reference value for smoothly promoting high-quality economic development.

 Scholars have carried out a lot of research on inclusive finance and high-quality economic development. The research mainly focuses on the connotation and level measurement of inclusive finance and high-quality economic development, as well as the impact of the former on the latter.

1.1. Research on the Connotation of Inclusive Finance. Corrado et al. [1] believe that inclusive finance refers to a new financial service generated by absorbing non-bank users outside the financial system [1]. Hong et al. [2] believe that inclusive finance means that low-income, poor, and vulnerable groups can enjoy financial services such as credit at an affordable cost [2]. Bai et al. [3] believe that inclusive finance is a financial service that highlights the humanistic concept of finance and emphasizes that the public can share the fruits of financial development [3]. Li [4] believes that inclusive finance should highlight “people-oriented,” optimize the allocation of financial resources, facilitate people’s lives, and create a fair environment by providing financing paths and means [4]. Li et al. [5] pointed out that unlike traditional finance, which emphasizes the depth of financial services, inclusive finance emphasizes the breadth of inclusive finance. Inclusive finance should include a variety of concepts such as equal opportunity, sustainability, and specific ratio, so that all sectors of society can have the right to enjoy the convenience and opportunities brought by financial services [5].

1.2. Research on the Measurement of the Development Level of Inclusive Finance. Tuesta and Camera [6] believe that inclusive finance reduces the exclusion of traditional finance and makes financial services accessible and accessible to more people. Therefore, the development level of inclusive finance is measured from three dimensions: barriers to access to financial services, availability, and accessibility of financial services [6]. Yorulmaz [7] took into account the indicators of the insurance industry and built an index evaluation system from the relationship between supply and demand to measure the development level of Inclusive Finance [7]. Xu et al. [8] used Euclidean spatial distance method and analytic hierarchy process to measure the development level of inclusive finance from the three dimensions of financial service availability, affordability, and utilization [8]. Wang and Cui [9] measured the development level of inclusive finance from the dimensions of geography, loan service, population, and deposit service [9]. Zhao [10] constructed the inclusive finance index system from the two dimensions of breadth and depth of inclusive finance [10]. Du and Fan [11] used the coefficient of variation method to measure the inclusive financial index from the four dimensions of depth, availability, Internet finance, and utilization of financial services [11].

1.3. Research on the Connotation of High-Quality Economic Development. Wang [12] believes that high-quality economic development should be reflected in coordinated development, which is common development in fairness, justice, and democracy [12]. Tian [13] believes that the welfare effect of high-quality economic development is greater than that of traditional development [13]. Zhao et al. [14] elaborated the connotation of high-quality economic development from the perspective of people’s livelihood, economic development, and system balance [14]. Song [15] pointed out that high-quality economic development should not only have a certain economic growth, but also be reflected in the optimization of industrial structure, the improvement of living standards, and economic efficiency [15]. Zhang and Wang [16] believe that high-quality economic development is the development of scientific and technological innovation and regional coordination, and the shared development centered on the people [16].

1.4. Research on the Measurement of High-Quality Economic Development. Jiao [17] built an index system to measure the high-quality economic development level from the 10 dimensions of economic structure, innovative development, and coordinated development [17]. Ou et al. [18] studied the measurement index system of high-quality economic development level from the five dimensions of “innovation, coordination, green, openness, and sharing” [18]. Fang et al. [19] constructed an economic high-quality development index system from four aspects: sustainable resources and environment, harmonious social sharing, innovation driven and economic operation, and measured provincial economic high-quality development index by using CRITIC method, Entropy weight method, and Dagum Gini coefficient method [19].

1.5. Research on the Impact of Inclusive Finance on High-Quality Economic Development. Du and Pan [20] used the individual and time double fixed effect model to empirically study the impact on regional economic development. The study found that inclusive finance has an obvious nonlinear relationship on regional economic development, and the impact direction of inclusive finance on economic development is also different among different regions [20]. Lei et al. [21] explored the relationship between inclusive finance and high-quality development by using IV instrumental variable method and panel models. The results show that
inclusive finance can effectively promote high-quality economic development, and its promotion effect is directly proportional to the development level of Inclusive Finance [21]. He and Zhang [22] empirically analyzed the impact of digital inclusive finance on high-quality economic development based on threshold effect model and System GMM model. The results show that there is a positive correlation between digital inclusive finance and high-quality economic development, and there is a single threshold effect [22]. Zong et al. [23] used the random effect model to make an empirical analysis on 14 cities in Hunan Province, China. The results show that inclusive finance is conducive to narrowing the urban-rural income gap and promoting high-quality economic development [23].

To sum up, scholars have made rich achievements in the research on inclusive finance and high-quality economic development, but there are still the following deficiencies: firstly, although different students define and construct the connotation and measurement index system of inclusive finance and high-quality economic development from different aspects, however, their connotation and measurement index system still need to be further improved. Secondly, the existing literature rarely involves the impact mechanism of inclusive finance on high-quality economic development. Thirdly, most of the existing research perspectives focus on the provincial level, and lack of discussion on typical regional or municipal regional data.

Based on this, firstly, this paper defines the connotation of inclusive finance and high-quality economic development and constructs inclusive finance index system and high-quality economic development index system, respectively. Then, the constructed index system is used to measure the inclusive financial level and high-quality economic development level of the Yangtze River Delta from 2010 to 2019. Finally, the panel threshold model is used to demonstrate the impact of inclusive finance on high-quality economic development of the Yangtze River Delta.

The contributions of this paper are as follows: first, based on the mechanism of Inclusive Finance affecting high-quality economic development, this paper studies the impact of Inclusive Finance on high-quality economic development from the provincial and municipal levels, which makes up for the deficiency of previous research perspectives. Second, considering the complex nonlinear relationship between Inclusive Finance and high-quality economic development, this paper uses the panel threshold model to empirically analyze the impact of Inclusive Finance on high-quality economic development, which makes up for the limitations of the traditional linear regression model.

2. Measurement of Inclusive Financial Development Level and High-Quality Economic Development Level

2.1. Measurement of Inclusive Financial Development Level
This part constructs the measurement index system of the development level of inclusive finance and uses the coefficient of variation method and European distance method to measure the development level of inclusive finance in the Yangtze River Delta. Inclusive finance refers to financial services that are committed to making all groups, especially the poor and vulnerable groups, enjoy low threshold and fairness at a reasonable and affordable cost. The financial services provided by inclusive finance have the characteristics of fairness, comprehensiveness, affordability, and sustainability. The coverage index of financial institutions in the measurement index system of inclusive financial development level constructed in this paper reflects the comprehensiveness of inclusive financial services, the availability index of financial services reflects the fairness of inclusive financial services, and the effectiveness index of financial services reflects the affordability and sustainability of inclusive financial services. Therefore, the development level measurement index system of Inclusive Finance constructed in this paper reflects the connotation and characteristics of Inclusive Finance. Based on the connotation and characteristics of inclusive finance and referring to the methods of Liu et al. [24], Zhao and Liu [25], and other scholars, this paper presents a set of inclusive finance development level measurement index system including 3 primary indicators such as financial institution coverage, financial service availability, and financial service effectiveness and 20 secondary indicators [24, 25].

(1) Coverage of financial institutions. The coverage of inclusive financial institutions is reflected in geographical coverage and population coverage. Geographical coverage is reflected by the number of outlets of financial institutions, ATM machines, and financial employees per 100 square kilometers. The numbers of outlets and ATMs of financial institutions affect the direct cost of financial demanders to obtain financial services. If a region has more outlets and ATMs of financial institutions per 100 square kilometers, the lower the cost of residents in the region to obtain financial services, and the higher the level of inclusive financial development. Similarly, the more financial practitioners per 100 square kilometers, the higher the development level of inclusive finance. Population coverage is reflected by the number of outlets of financial institutions, ATM machines, and financial employees per 10000 people. The number of outlets and ATMs of financial institutions reflects the convenience of financial demanders to obtain inclusive financial services. If the number of outlets and ATMs of financial institutions per 10000 people in a region is more, the convenience of residents in the region to obtain financial services is greater. Similarly, the more the financial employees per 10000 people, the higher the development level of inclusive finance [26]. Therefore, this paper measures the coverage of inclusive finance by six indicators: the number of financial institution outlets, the number of ATM machines, and financial employees per 100 square kilometers, and the number of financial institution outlets, the number of ATM machines, and financial employees per 10000 people.
(2) Availability of financial services. The higher the per capita loan amount and per capita deposit amount of a regional financial institution, the greater the availability of financial services in the region. The greater the per capita holding of bank cards, the more the customers using financial services. The number of credit cards per 10000 people, the proportion of people buying investment and financial products, the proportion of people using digital payment per capita, and the depth of insurance can well measure the availability of innovative inclusive financial services such as credit, investment and financing, digital technology, and insurance in the region. The greater the value of these indicators is, the greater the availability of inclusive financial services in the region is [27]. Therefore, this paper measures the availability of inclusive financial services by seven indicators: the per capita loan amount, the per capita deposit amount, the per capita holding amount of bank cards, the number of credit cards per 10000 people, the proportion of people buying investment and financial products, the per capita proportion of using digital payment, and the depth of insurance.

(3) Effectiveness of financial services. Effectiveness of inclusive finance is reflected by the extent to which enterprises and individuals excluded by traditional financial services can fairly enjoy financial services. From the enterprise level, the larger the proportion of operating loans and credit loans of small and micro enterprises in a region, the easier it is for small and micro enterprises in the region to obtain financial services, and the stronger the effectiveness of Inclusive Finance. From the individual level, rural residents, especially poor households, are excluded by traditional finance. The higher the proportion of the balance of farmers’ production and operation loans, the proportion of targeted poverty alleviation loans, the proportion of rural residents’ credit loans, the proportion of entrepreneurship guarantee loans, and the proportion of student loans in a certain area, indicating that the poor and vulnerable groups in the area are easier to obtain financial services, the greater the effectiveness of regional Inclusive Finance. Therefore, this paper measures the effectiveness of financial services by seven indicators: the proportion of operating loan balance of small and micro enterprises, the proportion of credit loan balance of small and micro enterprises, etc.

The measurement indicators and calculation methods of inclusive financial development level are shown in Table 1.

2.1.1. Measurement Method of Inclusive Financial Development Level. Because the data units of each index of the inclusive financial development level measurement index system are different, we first standardize the data of each index and then use the coefficient of variation method and Euclidean distance method to calculate the inclusive financial development level of the Yangtze River Delta. The specific steps are as follows:

(1) Standardization of Indicator Data. In order to eliminate the error caused by different units of each index data, the index data is standardized. The calculation formula is as follows:

\[ A_i = \frac{X_i - \min x_i}{\max x_i - \min x_i} \]  \hspace{1cm} (1)

where \(X_i\) represents the actual value of the \(i\)th index, \(\min \) represents the minimum value of the \(i\)th index, \(\max \) represents the maximum value of the \(i\)th index, and \(A_i\) is the standardized value of the \(i\)th index.

(2) Calculation of Index Weight. Referring to the method of calculating the index weight by Yang et al. [28] and Han et al. [29], we use the coefficient of variation method to calculate the weight of each index [28, 29]. The calculation formula is as follows:

\[ V_i = \frac{\sigma_i}{\bar{X}_i} \]  \hspace{1cm} (2)

\[ W_i = \frac{V_i}{\sum V_i} \]

where \(V_i\) is the coefficient of variation, \(\sigma_i\) is the standard deviation of the index, \(\bar{X}_i\) is the mean value of the index, and \(W_i\) is the weight of the second indicator.

(3) Calculation of Euclidean Distance. Calculate the Euclidean distance of each index according to the weight obtained by the above formula. The calculation formula is as follows:

\[ d_i = W_i \cdot A_i \]  \hspace{1cm} (3)

(4) Calculation of Inclusive Financial Index. First, calculate the difference between the actual value and the ideal value of the \(i\)th index; then, synthesize these differences into a numerical value, namely, the inclusive financial index. The calculation formula is as follows:

\[ IFI = 1 - \frac{\sqrt{(W_1-d_1)^2 + (W_2-d_2)^2 + \cdots + (W_n-d_n)^2}}{\sqrt{W_1^2 + W_2^2 + \cdots + W_n^2}} \]  \hspace{1cm} (4)

where \(W_i (i = 1, 2 \ldots n)\) is the weight of the \(i\)th index, \(d_i (i = 1, 2 \ldots n)\) is the Euclidean distance of the \(i\)th index, and \(IFI\) is the inclusive financial index.
economic network database. Bring the index data into formulas (1)–(4) to calculate the inclusive financial index of all cities under the jurisdiction of the Yangtze River Delta. See Tables 2 and 3 for the specific results.

From the measurement results in Tables 2 and 3, the following conclusions can be drawn:

Overall, the development level of inclusive finance in the Yangtze River Delta has been continuously improved in the past decade, and there is an obvious inflection point in the development. The development level of inclusive finance in the Yangtze River Delta has increased from 0.156 in 2010 to 0.333 in 2019, with an average annual growth rate of 8.79%. An obvious inflection point in the development of Inclusive Finance is in 2016. From 2010 to 2015, the development level of inclusive finance was relatively slow. In 2016, the development level of inclusive finance was significantly improved, with a year-on-year increase of 65.4%, but the year-on-year growth rate of inclusive finance fell again from 2017 to 2019. The reasons are as follows: in the recent 10 years, the continuous improvement of Inclusive Finance in the Yangtze River Delta is inseparable from the continuous improvement of the coverage of financial institutions and the availability and effectiveness of financial services. The development of inclusive finance has the characteristics of time lag. The greatest effect can be achieved only after several years of financial infrastructure construction and financial resources investment. The investment in inclusive financial development in the Yangtze River Delta, after a five-year lag period, played the greatest effect in 2016, and the growth rate of inclusive financial development reached the maximum. After that, due to the reduction of investment growth, the growth rate of inclusive financial development in the region fell back.

From the provincial level, the development level of inclusive finance in the three provinces under the jurisdiction of the Yangtze River Delta has the same trend, but the development level of inclusive finance in different provinces is obviously differentiated. The main reason for this phenomenon is that, from 2010 to 2015, the three provinces in the Yangtze River Delta invested a lot of resources in the development of inclusive finance, and the growth rate of inclusive finance fell after 2016. The main reason for this phenomenon is that, from 2010 to 2015, the three provinces in the Yangtze River Delta invested a lot of resources in the development of inclusive finance, and the growth rate of inclusive finance fell after 2016. The main reason for this phenomenon is that, from 2010 to 2015, the three provinces in the Yangtze River Delta invested a lot of resources in the development of inclusive finance, and the growth rate of inclusive finance fell after 2016. The main reason for this phenomenon is that, from 2010 to 2015, the three provinces in the Yangtze River Delta invested a lot of resources in the development of inclusive finance, and the growth rate of inclusive finance fell after 2016.

| Primary index | Secondary index | Calculation method of index |
|---------------|-----------------|-----------------------------|
| Coverage of financial institutions | Number of financial institution outlets per 100 square kilometers | Number of outlets of financial institutions/Regional area |
| | Number of ATM machines per 100 square kilometers | Number of ATMs/Regional area |
| | Financial employees per 100 square kilometers | Number of employees in the financial industry/Regional area |
| | Number of financial institution outlets per 10000 people | Number of outlets of financial institutions/Number of permanent residents |
| | Number of ATM machines per 10000 people | Number of ATMs/Number of permanent residents |
| | Financial employees per 10000 people | Number of employees in the financial industry/Number of permanent residents |
| Availability of financial services | Per capita loan amount | Loans from financial institutions/Number of permanent residents |
| | Per capita deposit amount | Deposits of financial institutions/Number of permanent residents |
| | Per capita holding amount of bank cards | Number of bank cards in use/resident population |
| | Number of credit cards per 10000 people | Number of credit cards/total population |
| | Proportion of people buying investment and financial products | Number of people purchasing financial products/Total population |
| | Per capita proportion of using digital payment | Number of people who have used digital payment/Total population |
| | Depth of insurance | Insurance premium income of financial institutions/Number of permanent residents |
| Effectiveness of financial services | Proportion of operating loans of small and micro enterprises | Operating loan amount of small and micro enterprises/loan amount of financial institutions |
| | Proportion of credit loans of small and micro enterprises | Credit loan amount of small and micro enterprises/loan amount of financial institutions |
| | Proportion of the balance of farmers’ production and operation loans | Loans for farmers’ production and operation/Loan amount from financial institutions |
| | Proportion of targeted poverty alleviation loans | Loans for targeted poverty alleviation/Loans from financial institutions |
| | Proportion of rural residents’ credit loans | Credit loan amount of rural residents/Loan amount from financial institutions |
| | Proportion of entrepreneurship guarantee loans | Loan amount of entrepreneurship guarantee/Loan amount from financial institutions |
| | Proportion of student loans | Student loans/Loan amount from financial institutions |

Table 1: Measurement index system and calculation method of inclusive financial development level.
resources to promote the development of Inclusive Finance. These input resources showed the greatest effect in 2016, and the growth rate of Inclusive Finance increased by leaps and bounds in 2016. From 2010 to 2019, the development level of inclusive finance in Zhejiang has maintained the highest level, followed by Jiangsu and Anhui, which are far lower than the other two provinces. The main reasons for this phenomenon are as follows: compared with Jiangsu and Zhejiang, Anhui has no obvious regional advantages, and there are disadvantages in human capital, scientific, and technological innovation and industrial structure.

On the city level, the development level of inclusive finance in each city is obviously differentiated. Next, take 2019 as an example to illustrate the differences in the development level of inclusive finance among cities in the Yangtze River Delta. In 2019, the inclusive financial index of cities with high level of inclusive financial development (such as Shanghai and Nanjing) is greater than 0.4, while the inclusive financial index of cities with high level of inclusive financial development (such as Anqing and Tongling) is less than 0.2. In 2019, there are 11 cities with inclusive financial index above 0.333, accounting for 40.74%, and 50% of these 11 cities are in Jiangsu and only one city in Anhui. There are 13 cities with inclusive financial index between 0.2 and 0.333, accounting for 48.14%. There are three cities with inclusive financial index less than 0.2, accounting for 11.11%, all of which are in Anhui. The reasons are as follows: compared with other provinces, the inclusive financial infrastructure of most cities in Anhui is not perfect, the inclusive financial policies and institutional mechanisms are not perfect, and the development of inclusive finance in these cities lags.

2.2. Measurement of High-Quality Economic Development Level of Cities under the Jurisdiction of the Yangtze River Delta.

Firstly, we construct the measurement index system of high-quality economic development level and then use the principal component analysis method to measure the high-quality economic development level of the Yangtze River Delta from 2010 to 2019.

| Region                  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Shanghai                | 0.429 | 0.443 | 0.449 | 0.457 | 0.469 | 0.525 | 0.856 | 0.859 | 0.865 | 0.876 |
| Nanjing                 | 0.193 | 0.204 | 0.210 | 0.216 | 0.230 | 0.241 | 0.399 | 0.406 | 0.427 | 0.443 |
| Wuxi                    | 0.172 | 0.179 | 0.186 | 0.190 | 0.199 | 0.204 | 0.335 | 0.338 | 0.347 | 0.358 |
| Changzhou               | 0.148 | 0.155 | 0.161 | 0.165 | 0.168 | 0.168 | 0.283 | 0.291 | 0.288 | 0.302 |
| Suzhou                  | 0.206 | 0.209 | 0.210 | 0.223 | 0.224 | 0.234 | 0.386 | 0.392 | 0.395 | 0.412 |
| Nantong                 | 0.157 | 0.160 | 0.162 | 0.166 | 0.173 | 0.177 | 0.298 | 0.301 | 0.305 | 0.312 |
| Yancheng                | 0.119 | 0.130 | 0.133 | 0.136 | 0.140 | 0.143 | 0.242 | 0.245 | 0.248 | 0.255 |
| Yangzhou                | 0.151 | 0.153 | 0.156 | 0.159 | 0.173 | 0.176 | 0.286 | 0.295 | 0.303 | 0.314 |
| Zhenjiang               | 0.148 | 0.153 | 0.159 | 0.160 | 0.164 | 0.170 | 0.278 | 0.279 | 0.296 | 0.307 |
| Taizhou                 | 0.101 | 0.102 | 0.104 | 0.107 | 0.110 | 0.118 | 0.199 | 0.202 | 0.202 | 0.222 |
| Hefei                   | 0.160 | 0.169 | 0.180 | 0.182 | 0.193 | 0.198 | 0.332 | 0.336 | 0.336 | 0.348 |
| Chuzhou                 | 0.084 | 0.089 | 0.088 | 0.092 | 0.096 | 0.101 | 0.168 | 0.174 | 0.180 | 0.182 |
| Ma'an Shan              | 0.087 | 0.092 | 0.099 | 0.098 | 0.106 | 0.107 | 0.178 | 0.188 | 0.204 | 0.209 |
| Wuhu                    | 0.146 | 0.150 | 0.160 | 0.167 | 0.172 | 0.182 | 0.305 | 0.313 | 0.324 | 0.338 |
| Xuanzhi                 | 0.087 | 0.088 | 0.095 | 0.099 | 0.102 | 0.111 | 0.182 | 0.190 | 0.196 | 0.206 |
| Tongling                | 0.080 | 0.082 | 0.085 | 0.089 | 0.092 | 0.103 | 0.174 | 0.178 | 0.187 | 0.191 |
| Chishou                 | 0.090 | 0.094 | 0.104 | 0.108 | 0.113 | 0.116 | 0.194 | 0.208 | 0.211 | 0.217 |
| Anqing                  | 0.084 | 0.087 | 0.090 | 0.092 | 0.099 | 0.100 | 0.167 | 0.172 | 0.182 | 0.192 |
| Hangzhou                | 0.252 | 0.259 | 0.260 | 0.273 | 0.290 | 0.298 | 0.489 | 0.495 | 0.522 | 0.527 |
| Ningbo                  | 0.204 | 0.211 | 0.219 | 0.225 | 0.238 | 0.240 | 0.402 | 0.408 | 0.420 | 0.448 |
| Jiaxing                 | 0.160 | 0.162 | 0.170 | 0.172 | 0.177 | 0.179 | 0.294 | 0.295 | 0.303 | 0.309 |
| Huzhou                  | 0.150 | 0.157 | 0.168 | 0.176 | 0.183 | 0.187 | 0.308 | 0.317 | 0.335 | 0.340 |
| Shaoying                | 0.156 | 0.168 | 0.172 | 0.173 | 0.179 | 0.184 | 0.303 | 0.310 | 0.312 | 0.317 |
| Zoushan                 | 0.153 | 0.161 | 0.164 | 0.166 | 0.169 | 0.170 | 0.281 | 0.297 | 0.302 | 0.308 |
| Jinhua                  | 0.176 | 0.177 | 0.180 | 0.183 | 0.186 | 0.191 | 0.318 | 0.327 | 0.332 | 0.348 |
| Taizhou                 | 0.144 | 0.147 | 0.150 | 0.152 | 0.152 | 0.158 | 0.266 | 0.275 | 0.283 | 0.298 |
| Wenzhou                 | 0.164 | 0.170 | 0.180 | 0.181 | 0.189 | 0.199 | 0.329 | 0.372 | 0.405 | 0.414 |
| Yangtze River delta     | 0.156 | 0.161 | 0.166 | 0.171 | 0.177 | 0.185 | 0.306 | 0.313 | 0.323 | 0.333 |

Data source: EPS global statistical database and China economic network database.
2.2.1. Construction of Measurement Index System for High-Quality Economic Development Level. Some scholars define the connotation of high-quality economic development from different angles, but they have roughly the same understanding of the core connotation of high-quality economic development. They believe that high-quality economic development is the coordinated development of growth efficiency and quality and the development that meets the needs of people’s livelihood and promotes regional balance and full development.

High quality economic development can be understood from the perspective of people’s livelihood orientation and system balance. From the perspective of people’s livelihood orientation, high-quality economic development is reflected in the improvement of the supply level of public goods and services such as medical treatment, culture, education, and society. To promote high-quality economic development, we should strengthen the construction of basic people’s livelihood, enhance social fairness and justice, and ensure and improve people’s livelihood. From the perspective of system balance, high-quality economic development should be a systematic and comprehensive development, reflecting coordination, sharing, innovation, and sustainability. Through high-quality development, we should be able to effectively solve the main social contradictions and the problems of imbalance, insufficiency, and destruction of resources and environment caused by traditional development. Based on the connotation of high-quality economic development and drawing on the practices of scholars such as Li [30], Xie and Hu [31], we build a measurement index system of high-quality economic development level including 5 primary indicators and 12 secondary indicators [30, 31]. The five primary indicators are regional structure, industrial structure, people’s livelihood needs, scientific and technological innovation, and green development. Among them, the indicators of regional structure and industrial structure reflect the systematicness of high-quality economic development, the indicators of people’s livelihood needs reflect the people’s livelihood orientation of high-quality economic development, and the indicators of scientific and technological innovation and green development reflect the characteristics of “efficiency” and “quality” of high-quality economic development.

(1) Regional Structure. From the perspective of regional structure, interregional coordination and cooperation will help improve the flow of production factors, resource exchange, and sharing, reduce transaction costs in the region, and help form economies of scale and high-quality economic development. The greater the ratio of urban and rural residents’ disposable income, the greater the regional urbanization rate, and the larger the per capita GDP, the higher the high-quality economic development level. Therefore, this paper chooses per capita GDP, urbanization rate, and the ratio of urban and rural residents’ disposable income to measure the regional structure.

(2) Industrial Structure. From the perspective of industrial structure, the status of the three regional industries is an important factor determining the high-quality development level of its economy. The greater the proportion of the added value of the tertiary industry in the current year’s GDP is, the more reasonable the industrial structure of the region is. Similarly, the larger the proportion of tertiary industry employees in the total employment in that year is, the higher the industrial structure is. Therefore, this paper measures the industrial structure by the proportion of added value of the tertiary industry and the proportion of employed persons in the tertiary industry.

(3) People’s Livelihood Needs. The demand for people’s livelihood is mainly reflected in the demand for public goods and services such as medical treatment. The higher the satisfaction of people’s livelihood needs in a region, the higher the high-quality economic development level of the region. The greater the number of beds in health institutions per 10000 people in a region, the better the supply of medical services in the region, the easier it is for people to obtain medical services, and the easier it is to meet the needs of people’s livelihood. The more books a region has per 10000 people, the easier it is for the people of the region to meet their spiritual and cultural needs. Therefore, this paper measures the satisfaction of people’s livelihood by the number of books per 10000 people and the number of beds in health institutions per 10000 people.

(4) Scientific and Technological Innovation. Scientific and technological innovation is the key means to solve the problem of excessive energy consumption and overcapacity in the process of economic development, and it is an important factor to promote high-quality economic development. The greater the number of patent applications accepted in a region, the greater the proportion of R&D investment in GDP, the more the enterprises in the region paying attention to the capital investment and R&D of scientific research and innovation, and the higher the level of high-quality economic development. The greater the proportion of science expenditure in the total financial expenditure of a region, the more the government of the region paying attention to the capital investment in science, and the stronger the ability of scientific and technological innovation. Therefore, this paper measures the level of scientific and technological innovation by the acceptance of patent applications, the proportion of R&D investment in GDP, and the proportion of science and business expenses in the total financial expenditure.

(5) Green Development. Green development is the fundamental way to solve environmental pollution and an important manifestation of high-quality economic development. The more the industrial wastewater discharged in a region, the slower the green development of the region, and the lower the high-quality economic development level. The larger the green area coverage of an area, the better the green development of the area, and the higher the high-quality economic development. Therefore, this paper measures the green development level by industrial wastewater discharge and green area coverage.
The specific index evaluation system for measuring the level of high-quality economic development is shown in Table 4.

2.2.2. Measurement Method. Because the constructed high-quality economic development index system covers many variables, these variables are easy to form multicollinearity. Therefore, we use principal component analysis to measure the high-quality economic development level in order to eliminate the collinearity problem between variables. The specific steps are as follows:

(1) Standardized Treatment. In order to eliminate the influence of different index units on the measurement of economic high-quality index, we standardize each index to eliminate the dimensionality and directionality of the index. See formula (1) for standardized treatment.

(2) Collinearity Test. When there are many selected indexes, there is usually a collinearity problem between the indexes, but whether there is collinearity needs to be verified by KMO test and Bartlett sphericity test. If there is collinearity between indexes, principal component analysis method can be used. Otherwise, the principal component analysis method cannot be used.

(3) Determine the Number of Principal Components. The methods of determining the number of principal components are usually divided into subjective method and objective method. The subjective method is to retain the principal components with variance greater than 1 according to empirical judgment, and there are several principal components with variance greater than 1; that is, there are several principal components. The objective method is to determine the number of principal components according to the inflection point or cumulative contribution of gravel map. The gravel map method usually takes the inflection point as the number of selected principal components. The cumulative contribution rule selects the first \( m \) principal components with a cumulative contribution of 80%, and the number of principal components is \( m \). Compared with the empirical judgment of the subjective method, the objective method can more accurately determine the number of principal components of the high-quality economic development index. Therefore, this paper selects the objective method to determine the number of principal components.

(4) Determine the High-Quality Economic Development Index. According to the results of principal component analysis and the linear combination coefficient corresponding to the number of principal components, the expression of economic high-quality development index is constructed. By substituting the data of various variables in the studied region into the expression of economic high-quality development index, we can get the economic high-quality development index of the region, that is, the level of economic high-quality development.

2.3. Calculation Results and Analysis of High-Quality Economic Development Level

2.3.1. Measurement Process of High-Quality Economic Development Level

(1) Collinearity Test. After the standardization of each index data, the collinearity test is carried out. The test results are shown in Table 5.

According to the test results in Table 5, it can be seen that there is collinearity between the variables measuring the high-quality economic development level. Therefore, it is reasonable to use the principal component analysis method.

(2) Determine the Number of Principal Components. The principal component analysis method is used to obtain the eigenvalue of each index, variance contribution rate, and cumulative variance contribution rate. The specific results are shown in Table 6.

According to the results in Table 6, the cumulative variance contribution rate of the first three components exceeds 80%, reaching 80.25%. Therefore, the number of principal components is 3, that is, the first, second and third principal components.

(3) Linear Combination Coefficient of Each Principal Component. The premise of determining the principal component expression is to clarify the linear combination coefficients of three principal components. The linear combination coefficient obtained by Reviews 12 is shown in Table 7.

According to the linear combination coefficients in Table 7, three conclusions can be drawn: first, among the original variable coefficients of the first main component (PC1), except \( X_1 \), \( X_3 \) and \( X_5 \), the absolute values of other coefficients are large, indicating that, except for the ratio of disposable income of urban and rural residents (\( X_1 \)), per capita GDP (\( X_3 \)), and the ratio of tertiary industry employment to total employment (\( X_5 \)), other indicators are the main influencing factor indicators. Second, among the original variable coefficients of the second main component (PC2), the coefficients of variables \( X_1 \) and \( X_5 \) are large, indicating that the disposable income ratio of urban and rural residents (\( X_1 \)) and per capita GDP (\( X_3 \)) are the main influencing factor indicators. Third, among the original variable coefficients of the second main component column (PC3), the coefficient of variable \( X_3 \) is large, indicating that \( X_3 \) is the main influencing factor index. Therefore, the extracted three principal component expressions are shown in formulas (5), (6), and (7):
### Table 4: Index system for measuring high-quality economic development level.

| Primary index                      | Secondary index                                                                 | Calculation method                                                                 | Index nature |
|-----------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------|
| Regional structure                | Ratio of disposable income of urban and rural residents                          | Disposable income of urban residents/disposable income of rural residents           | -            |
|                                   | Urbanization rate                                                                | Permanent urban population/total regional population                              | +            |
|                                   | Per capita GDP                                                                   | Regional GDP/total population of the region                                        | +            |
| Industrial structure              | Proportion of added value of tertiary industry                                   | GDP added value of tertiary industry/GDP of region                                 | +            |
|                                   | Proportion of employment in tertiary industry                                     | Employment in tertiary industry/employment in region                               | +            |
| People’s livelihood needs         | Book collections per 10000 people                                               | Library collection/total population of the region                                  | +            |
|                                   | Number of beds in health institutions per 10000 people                           | Number of beds in health institutions/total population in the region                | +            |
| Innovative technology             | Patent application acceptance                                                    | Annual patent application acceptance                                              | +            |
|                                   | Ratio of R&D investment to GDP                                                   | D investment of industrial enterprises above designated size/regional GDP           | +            |
|                                   | Proportion of scientific undertaking expenses in financial expenditure           | Expenditure of scientific undertaking expenses/total financial expenditure of the current year | +            |
| Green development                 | Industrial wastewater discharge                                                  | Annual industrial wastewater discharge                                             | -            |
|                                   | Greening coverage                                                               | Green area/total area                                                              | +            |

### Table 5: Results of KMO test and Bartlett’s test.

| KMO’s test | Test statistics | 0.706 |
|------------|-----------------|-------|
| Bartlett’s test | Sig. | 0 |

### Table 6: Variance decomposition of evaluation index variables for high-quality economic development.

| Serial number | Eigenvalue | Variance contribution rate | Cumulative variance contribution rate |
|---------------|------------|----------------------------|---------------------------------------|
| 1             | 6.672      | 0.556                      | 0.556                                 |
| 2             | 1.977      | 0.165                      | 0.721                                 |
| 3             | 0.981      | 0.082                      | 0.803                                 |
| 4             | 0.721      | 0.060                      | 0.863                                 |
| 5             | 0.690      | 0.058                      | 0.920                                 |
| 6             | 0.452      | 0.038                      | 0.958                                 |
| 7             | 0.192      | 0.016                      | 0.974                                 |
| 8             | 0.140      | 0.012                      | 0.986                                 |
| 9             | 0.093      | 0.008                      | 0.993                                 |
| 10            | 0.068      | 0.006                      | 0.999                                 |
| 11            | 0.011      | 0.001                      | 1.000                                 |
| 12            | 0.003      | ≤0.001                     | 1.000                                 |

Data source: China Economic and social big data research platform.

### Table 7: Coefficient of linear combination.

| Variables | PC₁       | PC₂       | PC₃       |
|-----------|-----------|-----------|-----------|
| X₁        | -0.07     | 0.48      | 0.22      |
| X₂        | 0.31      | -0.23     | -0.001    |
| X₃        | 0.06      | -0.27     | 0.89      |
| X₄        | 0.31      | -0.06     | 0.23      |
| X₅        | 0.001     | 0.59      | 0.05      |
| X₆        | 0.36      | 0.18      | -0.004    |
| X₇        | 0.35      | 0.15      | -0.05     |
| X₈        | 0.36      | 0.16      | -0.019    |
| X₉        | 0.37      | 0.085     | 0.001     |
| X₁₀       | 0.32      | -0.21     | -0.13     |
| X₁₁       | 0.23      | -0.34     | -0.27     |
| X₁₂       | 0.34      | 0.21      | 0.06      |

Data source: China Economic and social big data research platform.
\begin{align*}
F_1 &= -0.07X_1 + 0.31X_2 + 0.06X_3 + 0.31X_4 + 0.001X_5 + 0.36X_6 + 0.35X_7 + 0.36X_8 \\
&\quad + 0.37X_9 + 0.32X_{10} + 0.23X_{11} + 0.34X_{12}, \\
F_2 &= 0.48X_1 - 0.23X_2 - 0.27X_3 - 0.06X_4 + 0.59X_5 + 0.18X_6 + 0.15X_7 + 0.16X_8 \\
&\quad + 0.09X_9 - 0.21X_{10} - 0.34X_{11} + 0.21X_{12}, \\
F_3 &= 0.22X_1 - 0.0001X_2 + 0.89X_3 + 0.23X_4 + 0.05X_5 - 0.004X_6 - 0.05X_7 - 0.019X_8 \\
&\quad + 0.001X_9 - 0.13X_{10} - 0.27X_{11} + 0.06X_{12},
\end{align*}

\(F_i (i = 1, 2, 3)\) represents the \(i\)th principal component, and \(X_n (n = 1, 2, 12)\) represents the \(n\)th index. According to the expressions of three principal components, the expression formula of economic high-quality development index is obtained. See the following equation:

\[
\text{HqED} = 0.556F_1 + 0.165F_2 + 0.082F_3, \tag{8}
\]

where HqED represents the high-quality economic development index.

### 2.3.2. Measurement Results and Analysis of High-Quality Economic Development Level

Substitute the data of high-quality economic development indicators of cities under the jurisdiction of the Yangtze River Delta from 2010 to 2019 into formula (8) to obtain the high-quality economic development index of cities. The specific results are shown in Table 8.

According to Table 8, the following conclusions can be seen:

1. The overall high-quality economic development level of the Yangtze River Delta has been steadily improved year by year. The high-quality economic development level of the Yangtze River Delta has increased year by year from 0.327 in 2010 to 0.433 in 2019, with an average annual growth rate of 3.2%. The high-quality economic development index of Shanghai, Nanjing, Suzhou, Hangzhou, Ningbo, and other cities exceeded their overall average level. The reasons for this phenomenon are as follows: the Yangtze River Delta has significant regional advantages, strong scientific and technological innovation ability, high level of opening to the outside world, and flexible policies. These factors jointly promote its high-quality economic development.

2. There are obvious differences in the level of high-quality economic development among different cities. According to the idea of cluster analysis, the high-quality economic development index of cities in 2019 as an example, the types of high-quality economic development in different cities in the Yangtze River Delta are divided. High level cities with high-quality economic development index greater than or equal to 0.433 include 11 cities such as Shanghai and Hefei, accounting for 40.74% of the number of cities. Medium level cities with high-quality economic development index between 0.3 and 0.433 include Yangzhou, CHangzhou, Shaoxing, and Taizhou, accounting for 33.33% of the number of cities. There are 7 low-level cities with high-quality economic development index lower than 0.3, accounting for 37.5% of the number of cities. The main reasons for this phenomenon are as follows: compared with low-level cities, high-level cities have better transportation and geographical location, higher degree of foreign trade, greater coverage and strength of government preferential policies, advanced management experience and scientific and technological innovation technology, which can attract a large number of high-quality talents, and faster economic development. On the contrary, due to insufficient infrastructure construction, single financial and economic resources, brain drain, and other reasons, the high-quality economic development speed of low-level cities is slow, and the difference between low-level cities and high-level cities is further expanded.

### 2.3.3. Further Analysis of High-Quality Economic Development Level

Based on the overall and city level of the Yangtze River Delta, this paper analyzes the high-quality economic development of the Yangtze River Delta in recent ten years. In order to further analyze its high-quality economic development, the following analyzes the high-quality economic development index of the three provinces under the jurisdiction of the Yangtze River Delta from the provincial level. The specific results are shown in Table 9.

According to Table 9, the following conclusions can be drawn:

1. The high-quality economic development level of the three provinces under the jurisdiction of the Yangtze River Delta has increased steadily year by year, and the trend is consistent in the recent ten years. The high-quality economic development index of Anhui increased from 0.214 in 2010 to 0.306 in 2019. The high-quality economic development index of Jiangsu increased from 0.383 in 2010 to 0.494 in 2019. High-quality economic development index of Zhejiang increased from 0.364 in 2010 to 0.478 in 2019. The reasons for this phenomenon are as follows: the accelerating pace of urban agglomeration construction, the increasing degree of opening to the outside world year by year, the prominent
implementation results of inclusive finance, the optimization and adjustment of industrial structure, the continuous enhancement of innovation ability, the accumulation and optimization of human capital and material capital, and the good satisfaction of people's livelihood can jointly promote the high-quality economic development of the three provinces.

(2) The high-quality economic development level of Anhui is significantly lower than that of the other two provinces. The high-quality economic development of Jiangsu level ranks first among the three provinces, followed by Zhejiang and Anhui. In 2019, the high-quality economic development indexes of Jiangsu and Zhejiang were 0.497 and 0.478, respectively, while the high-quality economic development index of Anhui was only 0.306, which was lower than the high-quality economic development level of the other two provinces in 2010. The reasons for this phenomenon are as follows: Anhui is not a coastal city, the level of opening to the outside world is low, and the economic development of Shanghai is difficult to radiate Anhui. In addition, Anhui’s own industrial structure and talent policy are backward, and it is difficult to attract foreign investment. From the perspective of rational people, the government has long favored Jiangsu and Zhejiang with relatively higher economic development level.

3. The Threshold Effect of Inclusive Finance on High-Quality Economic Development in the Yangtze River Delta

According to the measured inclusive financial index and high-quality economic development index, the high-quality economic development index of the Yangtze River Delta is growing steadily year by year, but there is an obvious inflection point in the inclusive financial index in 2016. The traditional linear analysis is difficult to highlight the impact of Inclusive Finance on high-quality economic development.
before and after 2016. In addition, considering the different geographical locations and initial financial resource endowments of different cities under the jurisdiction of the Yangtze River Delta, there may be spatial heterogeneity in the impact of inclusive finance on the high-quality development of regional economy. The above two points show that there may be a nonlinear relationship between inclusive finance and high-quality economic development in the Yangtze River Delta, rather than a simple linear relationship. The threshold model can quantify the nonlinearity and objectively verify whether there is a nonlinear relationship between them. Zhang and Bai [32], Li [33], and other scholars adopted the panel threshold model when studying the effect of Inclusive Finance and objectively and accurately obtained the research arguments [32, 33]. Therefore, the panel threshold model is used to empirically analyze the impact of inclusive finance on high-quality economic development in the Yangtze River Delta from 2010 to 2019.

3.1. Introduction to Panel Threshold Model. The panel threshold model was proposed by the American economist Bruce E. Hansen (2000). The model can quantitatively study the nonlinear relationship and explore whether the explanatory variable has threshold effect on the explained variable [34]. Generally, the threshold variables in the panel threshold model can be set freely. Common panel threshold model with single threshold is as follows:

\[ y_{it} = \beta_1 x_{it} I (q_{it} \leq y) + \beta_2 x_{it} I (q_{it} > y) + \epsilon_{it} + u_{it}, \]

where \( y_{it} \) is the explained variable, \( x_{it} \) is the explanatory variable, \( \beta_i (i = 1, 2) \) is the parameter to be evaluated, \( I (\bullet) \) is the indicative function, \( q_{it} \) is the threshold variable, \( y \) is the threshold value to be evaluated, \( \epsilon_{it} \) obeys the independent normal distribution, and \( u_{it} \) is the fixed effect.

Bruce E. Hansen creatively introduced bootstrap self-sampling method to measure the existence of threshold effect with \( F \) statistics. The more the times bootstrap self-sampling method self-sampling, the more accurate the value of \( F \) statistics obtained, and the more it can be used to measure whether there is threshold effect. The expression of \( F \) statistic is shown in the following formula:

\[ F_j = \frac{n(T - 1)(S_0 - S_j)}{S_1}, \]

where \( S_0 \) and \( S_j \) are the sum of squares of OLS residuals without threshold effect and with threshold effect, respectively.

Since the number of self-sampling times of bootstrap method is subjective, the estimated threshold value may deviate from the actual threshold value. The confidence interval of the threshold value should be constructed to test the authenticity of the threshold value. It is very difficult to construct the confidence interval of the threshold. Bruce E. Hansen further pointed out that the likelihood ratio statistics can be used to determine the authenticity of the threshold value from the perspective of “nonrejection domain.”

Original hypothesis \( H_0: \gamma = y \).

Likelihood ratio statistic:

\[ LR(y_0) = \frac{S(y_I) \times S(y)}{\delta^2}, \]

where \( y \) is the true value of the threshold, \( \gamma \) is the consistent estimator of \( y \), \( \delta^2 \) is the square of the residuals of the original hypothesis \( H_0 \), and \( S(y) \) is the sum of the squares of the residuals of the original hypothesis \( H_0 \). If \( LR(y) \leq 2 \ln(1 - \sqrt{1 - \alpha}) \) (\( \alpha \) is the significance level), accept the original hypothesis with “threshold effect”; otherwise, reject the original hypothesis.

3.2. Model Construction and Index Selection

3.2.1. Construction of Panel Threshold Model. Based on the panel threshold model proposed by Bruce E. Hansen, the panel threshold model of inclusive finance for high-quality economic development is constructed with inclusive finance index (IFI) as the threshold variable, as shown in the following equation:

\[ HqED_{it} = \alpha_1 IFI_{it} + \alpha_2 INS_{it} + \alpha_3 EDU_{it} + \alpha_4 ITD_{it} + \beta_1 IFI_{it} I (IFI_{it} \leq y) + \beta_2 IFI_{it} I (IFI_{it} > y) + u_{it} + \epsilon_{it}, \]

where \( HqED \) is the high-quality economic development index, \( IFI \) is the inclusive finance index, \( INS \) is the industrial structure, \( EDU \) is the regional education level, \( ITD \) is the degree of import trade, \( i \) stands for the ith city, \( t \) stands for the t-th year, \( \alpha_i (i = 1, \ldots, 4) \) and \( \beta_j (i = 1, 2) \) are parameters to be estimated, \( u_{it} \) is the fixed effect, and \( \epsilon_{it} \) is the random error.

3.2.2. Variable Selection. Select the high-quality economic development index as the explanatory variable, the inclusive financial index as the explanatory variable and threshold variable, and the industrial structure, regional education level, and foreign trade intensity as the control variables. The specific settings of variables are as follows:

(1) Explained variable. High quality economic development is a complex multidimensional index. The above measured high-quality economic development index can better measure the high-quality economic development level of cities under the jurisdiction of the Yangtze River Delta. Therefore, this paper uses the economic high-quality development index to represent the economic high-quality development index.

(2) Explanatory variables. The above paper constructs the inclusive finance index system from multiple dimensions, and the measured results can objectively reflect the development level of Inclusive Finance in the Yangtze River Delta. Therefore, this paper uses inclusive finance index to measure the development level of Inclusive Finance.
(3) Threshold variable. Since there may be a nonlinear relationship between inclusive finance and high-quality economic development, we select the inclusive finance index as the threshold variable to measure whether inclusive finance development has a threshold effect on the high-quality economic development of the Yangtze River Delta.

(4) Control variables. Select the following three control variables: ① industrial structure. The optimization and adjustment of industrial structure are conducive to the flow of production factors and resources from low-efficiency industries to high-efficiency industries and promote the optimal and rational allocation of resources. At the same time, the upgrading of industrial structure plays a positive role in solving the structural contradiction between supply and demand in traditional departments, so as to promote the high-quality development of regional economy. Therefore, this paper measures the industrial structure by the proportion of the added value of the tertiary industry in the regional GDP. ② The level of regional education. Education plays an important role in the quality consciousness of local residents and the cultivation of innovative and applied talents. The higher the regional education level, the stronger the financial awareness of residents, and the more the innovative and applied talents. The stronger the financial awareness, the better the development of Inclusive Finance. The more the innovative and applied talents in a region, the higher the quality of its economic development. At the same time, high-tech talents are conducive to the formation of regional leading industries and industrial agglomeration and finally promote the high-quality development of regional economy. Therefore, this paper measures the level of education by the number of years of education per capita in the region. ③ The degree of import trade. Imported products and services are conducive to optimizing resource allocation, promoting domestic enterprises’ competition for innovative products and services, changing the mode of economic growth, improving service quality, and promoting the optimization and adjustment of consumption structure. Therefore, this paper measures the degree of import trade by the total regional import.

See Table 10 for symbols and meanings of each indicator variable.

3.2.3. Variable Processing and Descriptive Statistical Analysis. Before the panel threshold model analysis, each index variable is logarithmicized to eliminate the impact of different index units on the empirical results. Descriptive statistical analysis was conducted on the variables to understand the maximum value and standard deviation of the core indicators. The results of descriptive statistical analysis of variables are shown in Table 11.

According to Table 11, the maximum value, standard deviation, and minimum value of inclusive finance Index (IFI) are 0.876, 0.126, and 0.08, respectively, indicating that there is heterogeneity in the development level of Inclusive Finance in different cities in the Yangtze River Delta. The maximum value of high-quality economic development level is 7 times of the minimum value, and the standard deviation is 0.166, which also indicates that there is heterogeneity in high-quality economic development among regions.

3.3. Empirical Results and Analysis

3.3.1. Stability Test. LLC test and PP test are used to test whether there is “pseudoregression” between variables. See Table 12 for inspection results.

It can be seen from Table 12 that all variables except the regional education level (EDU) are stationary series, and the regional education level is also stationary series after the first-order difference.

3.3.2. Existence Test of Threshold Effect. The relevant results of the existence test of the threshold effect of inclusive finance on high-quality economic development are shown in Table 13.

From the test results of the existence of threshold effect, it can be seen that the test p values of single threshold and double threshold are less than 0.05, indicating the existence of double threshold effect. The p value of F-statistic test of triple threshold effect is greater than 0.05, indicating that there is no threshold effect. Therefore, inclusive finance in the Yangtze River Delta has a threshold effect on high-quality economic development and is a double threshold effect. The estimated results are shown in Table 14.

It can be seen from Table 14 that the two threshold values estimated under the dual threshold model are 0.358 and 0.522, respectively.

3.3.3. Regression Results of Panel Threshold Model. The above tests show that inclusive finance in the Yangtze River Delta has a threshold effect on high-quality economic development from 2010 to 2019, and it is a double threshold effect. The empirical p value obtained by Hausman test model is less than 0.05. Therefore, the fixed effect model is used for regression analysis, and the regression results are shown in Table 15.

According to the panel threshold regression results, the following three conclusions can be drawn:

(1) When the level of inclusive finance is low, it is not conducive to high-quality economic development. When the development level of inclusive finance is lower than 0.358, the development coefficient of inclusive finance to economic high quality is −0.075 and significant at the significance level of 5%, indicating that there is a negative correlation between inclusive finance and economic high quality. The reason is as follows: when the development level of inclusive finance is low, on the one hand, it is difficult
Table 10: Symbols and meanings of variables.

| Variables          | Symbols of variables | Meanings of variables          |
|--------------------|----------------------|--------------------------------|
| Explained variable | HqED                 | High quality economic development level |
| Explanatory variable | IFI                 | Inclusive financial index      |
| Threshold variable | IFI                  | Inclusive financial index      |
| Control variable   | INS                  | Industrial structure          |
|                    | EDU                  | Regional education level       |
|                    | ITD                  | Degree of import trade         |

Table 11: Descriptive statistical analysis of variables.

| Variables | Number of samples | Mean value | Minimum value | Maximum standard deviation |
|-----------|-------------------|------------|---------------|---------------------------|
| HqED      | 270               | 0.379      | 0.167         | 1.139                     |
| IFI       | 270               | 0.229      | 0.08          | 0.876                     |
| INS       | 270               | 0.442      | 0.234         | 0.705                     |
| EDU       | 270               | 4.433      | 1.898         | 6.193                     |
| ITD       | 270               | 0.7        | −5.567        | 5.873                     |

Data source: Statistical Yearbook of each city, official website of China statistical data application support system and EPS global statistical data official website.

Table 12: Unit root test results of panel data.

| Variables | LLC inspection value | PP inspection value | Conclusion          |
|-----------|----------------------|---------------------|---------------------|
| HqED      | −7.63(≤0.001)        | 27.62(≤0.001)       | Stability           |
| IFI       | −2.87(≤0.001)        | 24.51(≤0.001)       | Stability           |
| INS       | −5.63(≤0.001)        | 65.14(≤0.001)       | Stability           |
| EDU       | 2.89(1.000)          | 1.32(1.000)         | Nonstationary       |
| ITD       | −8.31(≤0.001)        | 33.13(≤0.001)       | Stability           |

Table 13: Existence test results of threshold effect.

| Inspection type | F Value | P Value | BS times | Critical value |
|-----------------|---------|---------|----------|----------------|
|                 |         |         | 1%       | 5%         | 10%           |
| Single threshold| 34.914**| 0.034   | 500      | 59.06       | 33.05         | 24.38         |
| Double threshold| 17.99**| 0.047   | 500      | 39.91       | 16.38         | 3.64          |
| Triple threshold| 6.471  | 0.283   | 500      | 33.26       | 20.79         | 14.81         |

Note. *, **, *** respectively represent the significance levels of 10%, 5%, and 1%, and the standard error is in parentheses.

Table 14: Threshold estimation results and confidence intervals.

| Double threshold model | Threshold estimate | 95% confidence interval |
|------------------------|--------------------|-------------------------|
| Ito1                   | 0.522              | [0.495, 0.522]          |
| Ito2                   | 0.358              | [0.338, 0.405]          |

Table 15: Regression analysis results of panel threshold model.

| Variables       | Panel threshold model | Variables       | Panel threshold model |
|-----------------|-----------------------|-----------------|-----------------------|
| IFI ≤ 0.358     | 0.075** (0.003)       | EDU             | 0.008** (0.007)       |
| 0.038 < IFI ≤ 0.522 | 0.013*** (0.694) | ITD             | 0.015*** (11.65)      |
| IFI > 0.522     | 0.109*** (1.338)     | Constant        | 0.003*** (13.27)      |
| INS             | 0.612** (0.173)      | Hausman         | 64.32 (≤0.001)        |

Number of samples: 270

Note. *, **, *** respectively represent the significance levels of 10%, 5%, and 1%, and the standard error is in parentheses.
for the government to obtain sufficient financial resources to promote regional economic development. On the other hand, in order to maximize economic and political interests, people usually invest limited financial resources in industries with high returns, and less in welfare industries and other low-income industries that promote people’s livelihood, resulting in unreasonable industrial structure, thus inhibiting the high-quality development of regional economy.

(2) When the level of inclusive finance is medium, it is conducive to high-quality economic development, but the effect is weak. When the development level of inclusive finance is between 0.358 and 0.522, the relationship between inclusive finance and high-quality economic development changes from negative to positive, and the coefficient is 0.013, which is significant at the significance level of 1%. The reasons are as follows: on the one hand, local governments have sufficient financial resources to promote the development of industries with low yield and small and micro enterprises and effectively solve the problem of unreasonable industrial structure caused by insufficient financial resources. On the other hand, the increase of financial resources is conducive to financial innovation, the injection of financial talents and enterprises, and the realization of high-quality regional economic development.

(3) When Inclusive Finance is at a high level, it can significantly promote the high-quality development of regional economy. When the development level of Inclusive Finance is greater than 0.522, the coefficient of Inclusive Finance to high-quality economic development is 0.109, which is significant at the significance level of 10%. When the development level of Inclusive Finance is at a high level, the role of Inclusive Finance in promoting high-quality economic development is relatively stronger. The reasons are as follows: on the one hand, the time lag of Inclusive Finance for high-quality economic development is weakened, and the promoting role of Inclusive Finance in the early stage is reflected in the current period. On the other hand, the further development of Inclusive Finance is conducive to expanding investment and financing channels, making it easier for regional small- and medium-sized enterprises to obtain financial resources, and finally promoting high-quality economic development.

4. Conclusions and Recommendations

This paper constructs inclusive finance index and high-quality economic development index to measure the high-quality development of inclusive finance and economy in the Yangtze River Delta from 2010 to 2019. And the panel threshold model is used to demonstrate the impact of inclusive finance on high-quality economic development in the Yangtze River Delta [35]. The main conclusions are as follows: (1) in the recent ten years, the inclusive financial development level and high-quality economic development level of cities in the Yangtze River Delta have been steadily improved year by year, but the development level differentiation among different cities is obvious. (2) Inclusive finance has a significant threshold effect on high-quality economic development, and there is an optimal level of inclusive finance development. When the inclusive financial index is lower than 0.358, it is not conducive to high-quality economic development. When the inclusive financial development index is between 0.358 and 0.522, it promotes high-quality economic development, but the effect is weak. When the inclusive financial development index is greater than 0.522, it plays a significant role in promoting high-quality economic development.

In view of the above conclusions, this paper gives the following countermeasures and suggestions, in order to further enhance the role of inclusive finance in promoting high-quality economic development of the Yangtze River Delta and also give reference suggestions for the implementation of inclusive finance and the realization of high-quality economic development in other regions.

(1) Strengthen regional cooperative development and give play to the spatial effect of inclusive finance. Although the development level of inclusive finance and high-quality economic development in the Yangtze River Delta has been continuously improved, there is obvious regional differentiation. Strengthening interregional coordinated development can not only effectively solve the problem of interregional development differentiation, but also further release the spatial spillover effect of inclusive finance. The specific measures are as follows: firstly, cities with high levels of inclusive finance and high-quality economic development can formulate relevant policy documents to encourage the free flow of production factors among regions, break the traditional policies, constantly break through regional barriers and fragmentation while not interfering with each other, and narrow the gap in high-quality economic development level of cities under the jurisdiction of the Yangtze River Delta. In addition, with the free flow of production factors among regions, the spatial effect of inclusive finance on the high-quality development of regional economy will be further brought into play. Secondly, cities with low levels of inclusive finance and high-quality economic development should speed up their own construction. Such cities should constantly strengthen the learning of management experience, industrial structure experience, and urbanization experience of cities with high economic quality and high development level. While enjoying the “giant shoulder effect,” analyze their own industrial or policy advantages, such as promoting their own high-quality economic development by exploring their own leading industries and advantageous
industries, increasing employment opportunities, and improving talent introduction policies.
(2) Improve the network layout of financial institutions and improve the development level of Inclusive finance. The threshold effect of Inclusive Finance on high-quality economic development in the Yangtze River Delta is significant. We should further develop inclusive finance and make full use of its threshold effect to promote high-quality regional economic development. The specific measures are as follows: firstly, improve the network layout of financial institutions and promote the diversification of financial services. By constantly improving the construction of financial infrastructure, improve the uneven distribution of outlets of financial institutions, and make these outlets radiate the surrounding blank area of financial services as far as possible in the areas where there are already outlets of financial institutions. Accelerate the capital financing progress of small and micro enterprises, develop regional endogenous financial institutions according to local conditions, and solve the problem of backflow of county funds to cities in the past. Promote the diversification of financial services, develop new inclusive finance, and give full play to innovative financial services such as loans, insurance, guarantee, investment, and financing based on credit business. Secondly, actively play the role of policy guidance and build an inclusive financial atmosphere and environment. Give full play to the guiding role of government policies. Establish a series of incentives and preferential policies to stimulate the financial service chain, improve basic services such as deposits and loans, and meet the basic financial services of vulnerable groups such as rural residents. We will improve the protection mechanism of financial services and strengthen the supervision of the services of financial institutions. Establish an inclusive financial atmosphere and external environment. Strengthen the publicity of relevant knowledge of Inclusive finance, improve the risk prevention awareness and inclusive finance concept of rural residents, and cultivate and carry forward the inclusive finance culture, so that enterprises can take into account social responsibility while pursuing their own profits. The government should speed up the reform of financial institutions, actively guide the institutionalization and standardization of nonfinancial institutions, promote the effective combination of informal financial institutions and financial institutions, and make up for the functional defects and low implementation efficiency of formal financial institutions.

Data Availability
The data used to support the findings of this study are included within the article.

Conflicts of Interest
The authors declare that there are no conflicts of interest regarding the publication of this paper.

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