


## Article

# The Green and Adaptable Development Paths of Provincial Characteristic Towns in Taihu Lake Basin: A Synergy Perspective on Face Value and Resilience

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**Abstract:** Enhancing the synergistic development level of face value and resilience is the key to achieving green and high-quality development of characteristic towns. This study takes 83 characteristic towns in Taihu Lake Basin as research samples, constructs a systematic evaluation index system of the face value and resilience, and scientifically classifies the face value and resilience of Taihu Lake Basin into high level, medium-high level, medium level, and low level, respectively, and explores the intrinsic influence mechanism of the deviation between the face value and resilience via the deviation index and synergy development degree model. The results show that (1) the face value of about 60% of the characteristic towns is above average, which is distributed in the northern and southeast regions of Taihu Lake Basin. In terms of the industry type, the face value level of characteristic towns of tourism, digital economy, information, and finance is high. (2) The number of characteristic towns with moderate resilience is the largest, accounting for 36.1%. Spatially, the characteristic towns with medium-high and high levels are mainly concentrated in Hangzhou, Kunshan, Wuxi, and Shanghai. In terms of the industry type, the resilience levels of tourism towns, digital economy towns, and modern service towns with distinctive industrial characteristics are higher. (3) The face value and resilience of most characteristic towns in Taihu Lake Basin are not synchronized, and 67.5% of the towns have a large deviation. We classify 83 characteristic towns into four categories: high robustness ( $H_j > 4.80$ ), medium-high robustness ( $4.02 \leq H_j \leq 4.79$ ), medium robustness ( $4.03 \leq H_j \leq 3.11$ ), and low robustness ( $H_j < 3.10$ ); the high robustness areas are concentrated in Suzhou–Wuxi–Changzhou and the northern part of Zhejiang. (4) We propose the differentiated development paths of synergistic development between face value and resilience, and the synergistic cooperation and governance mechanism of multiple subjects for the achievement of balanced development in characteristic towns. The conclusions of this study have important research value and practical significance for the sustainable development of similar characteristic towns.

**Keywords:** face value and resilience; the synergy development model; differentiated paths; Taihu Lake Basin



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## 1. Introduction

A characteristic town is a new form of industrial layout, which focuses on cultivating and developing the leading industry and attracting advanced factors such as talent, technology, capital, and so on [1,2]. It has the distinct industrial characteristics of subdividing high-end characteristics, the multifunctional integration characteristics of the industry, urban and culture, and the spatial utilization characteristics of intensification and efficiency [3]. The inspiration for characteristic towns originally came from foreign countries, especially the developed countries in Europe and the United States, after industrialization and urbanization. For developmental needs, a number of characteristic towns have been built successively, which includes 12 classic cases around the world, such as Grasse Town in France, Hershey Town in the United States, Herzogenaurach Town in Germany, Cambridge

Town in England, and so on [4]. The reason for the existence and sustainable development of these towns with different shapes and characteristics is that the unique industry is used as a solid foundation and strong driving force, and the foundation of the industry is high-quality workers, which points out the direction for the construction of characteristic towns. At present, characteristic towns have become a topic of great concern in the process of new urbanization, rural revitalization, and regional-coordinated development in China.

Although China's economy has begun to turn to connotative development, the construction of characteristic towns in different regions is still not ideal, and there exists a series of problems, including a lack of cultural support, insufficient benefit output, separation of life and production, and serious ecological destruction [5,6]. Some characteristic towns focus on their ecological maintenance and geographical development and pay too much attention to the external image, ignoring the development and integration of characteristic industries, which are not conducive to the sustainable development of the towns [7]. Therefore, the shaping of the external image and the improvement of the internal quality of the towns are particularly important. Specifically, improving the level of face value and resilience of characteristic towns as well as their synergistic development are important issues for the healthy development of the towns at present. In this study, face value represents the external image of the town, and resilience represents the intrinsic development momentum.

The aim of this study is to assess the imbalance between the face value and resilience of characteristic towns from a new perspective and explore the appropriate paths to improve the synergistic development level of face value and resilience. This study can provide theoretical guidance for scholars and practical reference for the government to comprehensively promote the coordinated development of production, living, and ecological space in characteristic towns; this study also has implications for different types of characteristic towns' planning, design, conservation, and promotional efforts, which is a research topic of great significance in response to the needs of the time.

## 2. Literature Review

The high-quality development of the towns should not only focus on the improvement of the external image; the key is to cultivate industries with characteristics and strong resilience. Among them, the external image refers to the face value of the towns. In Japan, it was interpreted as the level of appearance and the visual value of the face. In China, some scholars put forward that face value is the measure of architectural style and spatial quality [8]. Other scholars also proposed that face value was the landscape aesthetics, architectural charm, and cultural atmosphere of characteristic towns [9]. The concept of resilience was first proposed by ecologist Holling to be used to describe the ability of a system to maintain its status quo ante after natural or human-induced disturbances or to repair itself quickly after damage. Then, it was extended to regional economic resilience, which was a new topic explored by Western scholars in the post-crisis era to address the issues of regional economic recovery and sustainable development. For evolutionary economic geographers, they consider regional economic resilience as the ability of a regional or local economy to withstand, recover, and reorganize its development path in the face of market, competitive, and environmental shocks [10,11].

Currently, there is less literature on the assessment of face value and resilience. For example, Briguglio et al. constructed a system of indicators to measure economic resilience, starting from four aspects of economic policies that have an impact on resilience [12]; Sensiter et al. designed a new approach to measure economic resilience in three dimensions [13]; Eraydin created a measurement system that includes vulnerability, resources, ability to adjust, and supporting policies [14]. In addition, the factors influencing regional economic resilience are also of interest to foreign scholars. Most researchers proposed that regional resilience was determined via four interacting subsystems which included industrial structure, labor markets, finance, and regulation [15,16]. Others believed that the three dimensions of regional economic resilience and technological-industrial diversity, knowledge networks, and institutions are closely intertwined, proposing a composite view

of regional economic resilience [17]. In comparison, the empirical studies were relatively lacking, and the research methods were not mature in China. Related studies mainly focused on analyzing the influencing factors by constructing regional resilience assessment models or measuring regional resilience indices, mainly involving economic technology, industrial structure, ecological environment, speed growth, etc. [18,19].

Most foreign academics took a specific town as an object of study, researched the planning and design of the town, assessed the economic benefits of the town, and summarized the development path suitable for a specific town. In the early stage, the comprehensive research method of regional planning and the model of synergistic development of urbanization and industrialization were the main methodologies for studying small towns [20]. At present, the characteristic towns have become the main means to promote urbanization and urban–rural integration in foreign countries, and their planning, construction, and development models have been quite mature, which mainly include the industrialization model of the United Kingdom, the new sports village model of Korea, the free market model of the United States, the external economic model of Latin American countries, and the administration-oriented model of Japan [21]. Some scholars believed that the development of small towns should be combined with the unique system and cultural heritage in which they are located and that localized management models have a positive effect on the tourism development of characteristic towns [22–24]. Scholars also proposed the smart town model, which enabled smart city development and construction through modern science and technology to make small towns more suitable for human life [25]. A small number of scholars believed that the participation model of foreign enterprises and the integration of history and culture not only promote the development and transformation of characteristic towns but also accelerate the speed and process of regional economic development [26,27]. In addition, researchers have also conducted systematic studies on the influencing factors of characteristic towns, and the main ideas included the following aspects. Firstly, the development of characteristic towns can effectively protect and inherit historical and cultural resources, which will also play a positive role in developing the tourism service industry, thus promoting the construction of characteristic towns and forming a virtuous circle [28]. Secondly, the ecological environment and entrepreneurship play a vital role in the development of the towns [29]. Thirdly, the development of small towns is affected by geographical, social, political, and economic factors [30]. Finally, the unique combination of local cultural resources and social connections is the key factor in driving the economic development of the towns [31].

In China, the urbanization development strategy was proposed after the reform and opening up, which was required to give priority to the development of the towns. However, due to the weak economic foundation, there was a significant difference in the economic development level of small towns compared with big cities, and gradually, a pattern of different development of different towns had been formed [32]. Domestic scholars have formed a basic understanding of the development background, characteristics connotation, functional value, and other theories of the characteristic town [33,34]. Moreover, relevant research has been made on the planning and construction, operation and governance, and benefit evaluation of the characteristic town. Based on the perspective of ecological livability, scholars agreed that the characteristic town was an urban agglomeration form with high integration of special industries, livable ecology, and high-quality life and was a spatial platform with the integration of primary, secondary, and tertiary industries [35,36]. The researcher also considered the characteristic towns as a high-quality spatial carrier that created urban–rural integration in form, cultivated the conversion of old and new dynamic energy in industry, and helped preserve traditional cultural heritage in ecology [37]. For the benefit evaluation of the characteristic town, related scholars constructed evaluation index systems from industrial, economic, cultural, ecological, and management dimensions, used an expert consultation method, model construction method, benchmarking method, and hierarchical analysis method to conduct in-depth analysis and evaluation, and put forward countermeasure suggestions suitable for regional characteristic towns [38,39]. Therefore,

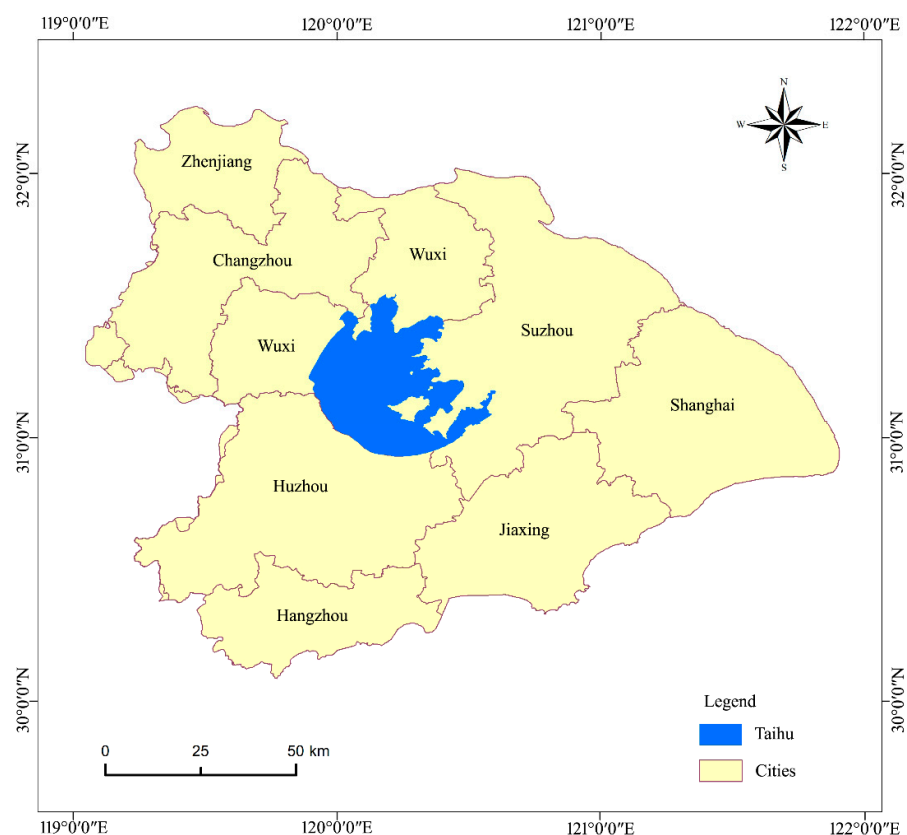
to promote the high-quality development of characteristic towns, they pointed out that people should be the core of the town, focused on improving the innovation capacity and industrial level of the town, promoting the town's linkage development, building industrial network clusters, upgrading creation level, and optimizing the construction space and flexible environment [40,41].

In summary, existing studies have formed a good research basis in the regional economic resilience, basic connotation, evaluation system, influencing factors, and countermeasure suggestions of the characteristic town, but the research on face value and resilience is still in the initial stage as a whole, and the relevant theoretical system and practical application need to be further improved. On the one hand, there is a lack of systematic evaluation index systems, standards, and methods for assessing the face value and resilience of characteristic towns; On the other hand, the synergistic development mechanism and development paths of face value and resilience of characteristic towns need to be supplemented.

### 3. Materials and Methods

#### 3.1. Study Area

Taihu Lake Basin consists of Shanghai, Hangzhou, Jiaxing, Huzhou, Suzhou, Wuxi, Changzhou, and Zhenjiang, which have better cultural, industrial, digital, and ecological foundations because of their rich resource endowment and superior geographical environment (Figure 1). Based on this, different types of characteristic towns are created and cultivated. In recent years, Taihu Lake Basin has scientifically positioned the leading industries of characteristic towns, focused on improving the quality, efficiency, and competitiveness of the leading industries, and strived to continuously build a new platform for high-quality economic development. However, some local governments overly pursue the face value of the characteristic town and ignore their resilience, resulting in slow progress of the project, insufficient functional integration, and distinctive industrial characteristics.



**Figure 1.** The location of Taihu Lake Basin.



### 3.2. Methods

#### 3.2.1. Face value and Resilience Evaluation Index System

In order to avoid unnecessary interference between indicators and to ensure a comprehensive and reasonable reflection of the resilience, the selection of assessment indicators should not only combine the development feature and the development concept of the characteristic town but also take into account the connotation of economic resilience. Therefore, we follow the principles of systematic and scientific evaluation, orientation, and operability to construct the assessment index of the face value and resilience of characteristic towns.

Firstly, this study refers to the Assessment Specification of Characteristic Town—Zhejiang Local Standards by the website “<http://lib.qiangdoc.com/html/2022/03-05/51210.html>” (accessed on 23 April 2023), and constructs the face value evaluation index table from six dimensions: ecological coordination, environmental landscape, greening cleanliness, service sharing, supporting perfection, and humanistic temperament. Secondly, based on the literature related to urban resilience level measurement [42,43] and combined with the actual development of characteristic towns in Taihu Lake Basin, the resilience evaluation index system is constructed from six dimensions of economic resilience, structural resilience, industrial resilience, innovation resilience, spatial resilience, and governance resilience (Table 1).

**Table 1.** The face value and resilience evaluation index system.

Target Layer	Criterion Layer	Index Layer	Target Layer	Criterion Layer	Index Layer
The face value level	Ecological coordination	Green and low-carbon development	The resilience level	Economic resilience	GDP per land
		Visual satisfaction		Structural resilience	Number of incoming companies
	Environmental landscape	A-level scenic spot evaluation			The proportion of service industries
		Landscape features			Proportion of emerging industries
		Architectural form		Industrial resilience	Location entropy of tourism industry
	Greening cleanliness	The afforested area		Innovation resilience	Degree of industrial integration
		Floor cleanliness			Internal expenditure of R&D expenditure
	Supporting perfection	Abundance of educational and medical resources		Spatial resilience	Output value of new products
		Facility convenience			Spatial network connection
	Service sharing	Share the economic dividend			Regional traffic links
		Happiness index		Governance resilience	Distance from the central city
	Humanistic quality	Cultural temperament			Subject participation
		Humanistic emotions			Mayor's governance ability

#### 3.2.2. The Method of Mean Value Theorem

This study explores the robust development characteristics of the towns via the mean value theorem logic method, using face value and resilience as measures. Among them,  $a$  is face value, and  $b$  is resilience. If  $a, b \in \mathbb{R}^+$ , then  $\frac{a+b}{2} \geq \sqrt{ab}$ . In the case of individual characteristic town  $K$ , if there exists  $a + b = L$ , then the efficacy space composed of face

value and resilience indicators of characteristic town is  $P_k$  ( $P_k = ab$ ). Supposing that  $S_k$  is the synchronization index of face value and resilience. The specific formula is as follows:

$$S_k = \frac{x_a x_r}{\left(\frac{x_a + x_r}{2}\right)^2} (0 \leq S_k \leq 1)$$

where  $x_a$  and  $x_r$  are the assessment value of the face value and resilience, respectively; when only  $S_k$  is equal to 1, the face and toughness reach the ideal state of simultaneous development with maximum functional space ( $P_k$ ).

### 3.2.3. The Deviation Index

In order to further clarify the problems in the development process of the face value and resilience of the characteristic town, this paper introduces the deviation index function. The specific formula is as follows:

$$D_a = \frac{x_a}{(x_a + x_r)/2},$$

$$D_r = \frac{x_r}{(x_a + x_r)/2},$$

where  $D_a$  is the face value deviation index,  $D_r$  is the resilience deviation index, and  $x_a$  and  $x_r$  are the assessment scores of face value and resilience, respectively. If  $D_a > 1$ , it means that the face value level of the characteristic town is higher than the resilience level; If  $D_r > 1$ , it indicates that the characteristic town has a higher level of resilience, but that of the face value is relatively low.

### 3.2.4. The Synergy Development Degree Model

Drawing on the ideas and methods of the Simultaneous Development Index and the Mean Value Theorem, this paper constructs a synergistic development model of the face value and resilience of the characteristic town in order to analyze the robust development level in a comprehensive and objective way via the following equation [44]:

$$H_j = (x_a w_a + x_r w_r) \times \frac{x_a x_r}{\left(\frac{x_a + x_r}{2}\right)^2}, \quad (1)$$

where  $H_j$  is the synergistic development degree between face value and resilience;  $x_a$  and  $x_r$  are the assessment value of the face value and resilience, respectively;  $w_a$  and  $w_r$  are the weight of the face value and resilience, respectively.

## 3.3. Data Source and Processing

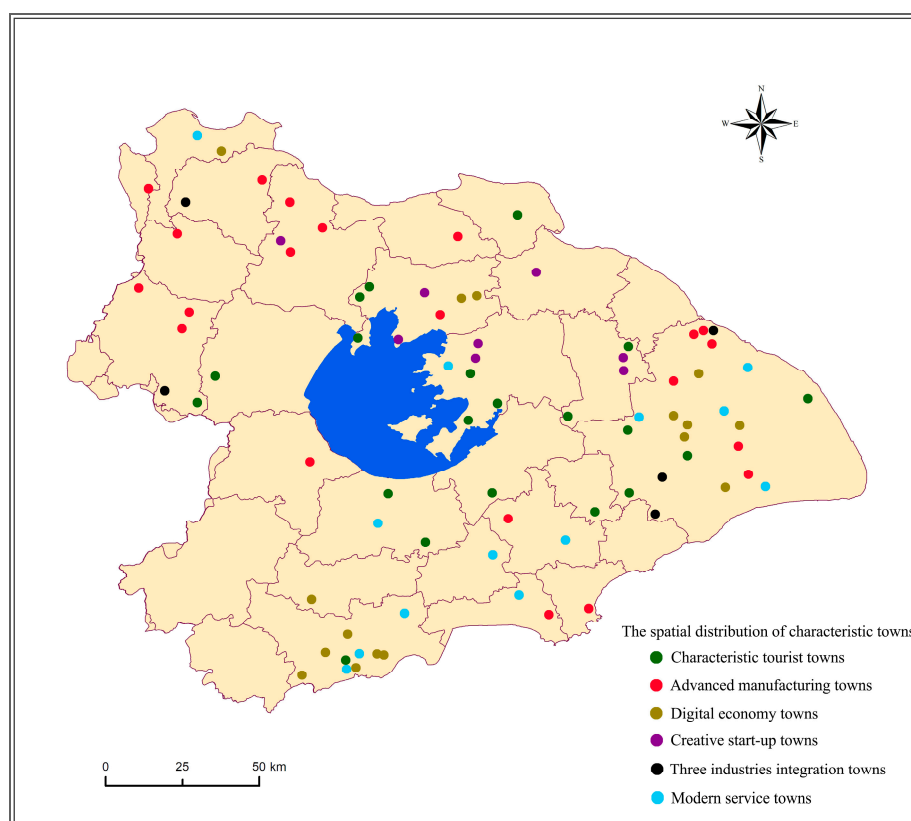
Based on the consideration of the availability of research data, this study selected 83 characteristic towns of Taihu Lake Basin as research samples, obtained point coordinate data by GoogleEarth, and made geospatial analysis by ArcGIS. The data for the basic indicators in this study were obtained from the Tourism Bureaus and Development and Reform Commission of Zhejiang, Jiangsu, and Shanghai, the official website of characteristic towns, and the statistical yearbooks of each city. In addition, the data on cultural temperament, humanistic emotions, happiness index, subject participation, mayor's governance ability, and visual satisfaction are from the statistical analysis of the survey questionnaire. The weight value of each index is calculated via the Analytic Hierarchy Process [45].

## 4. Empirical Results and Analysis

### 4.1. The Spatial Distribution Characteristics

From the analysis of industry types, Taihu Lake Basin mainly includes characteristic tourist towns, advanced manufacturing towns, digital economy towns, creative start-up towns, three industries integration towns, and modern service towns. Among them, the number of characteristic tourist towns and advanced manufacturing towns accounted for 25.0% each, and that of digital economy towns and modern service towns is 19.0% and

15.5%, respectively. In terms of geographic spatial distribution, there exist obvious regional differences in the characteristic towns of Taihu Lake Basin, showing a spatial pattern of denseness in the east and sparseness in the west, mainly concentrated in Shanghai, Hangzhou, Suzhou, Wuxi, and Changzhou. The characteristic towns in Shanghai and Hangzhou mainly focus on finance, information, high-end equipment manufacturing, and other emerging industries, while the characteristic towns in Suzhou and Wuxi mainly rely on local culture, tourism, ecology, innovation, and other resources to develop (Figure 2).

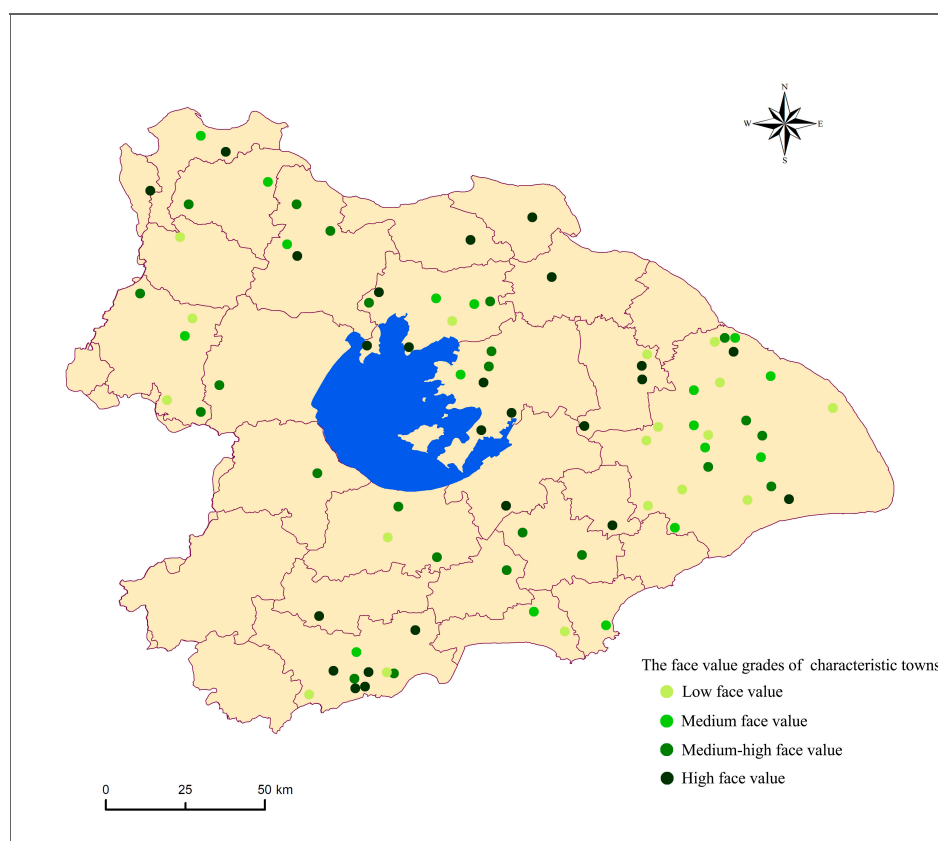


**Figure 2.** The spatial distribution of characteristic towns in Taihu Lake Basin.

#### 4.2. The Assessment Results of Face Value and Resilience

##### 4.2.1. The Analysis of Face Value Level

In this study, we use the k-means clustering method to classify the face value level of the characteristic town into four types, including high level, medium–high level, medium level, and low level, and choose ArcGIS 10.2 to draw the spatial distribution map based on the sample point data captured by GoogleEarth. Figure 3 shows that the face value of about 60% of the characteristic towns is above average. It can be seen that Taihu Lake Basin attaches great importance to the economic effect of face value in the process of creating characteristic towns, insists on parallel economic development and ecological environmental protection, and most of the characteristic towns are better shaped. In terms of spatial distribution, the overall face value level of the characteristic towns in the northern and southeast regions is higher than that of other regions. Among them, the characteristic towns in Suzhou, Wuxi, and Hangzhou have higher face value levels, while the majority of Shanghai is below medium level, and that of Changzhou and Jiaxing are not high. In terms of the industry type, the face value level of characteristic towns of tourism, digital economy, information, and finance is high, while that of the manufacturing type is relatively low.



**Figure 3.** The distribution of characteristic towns' face value level in Taihu Lake Basin.

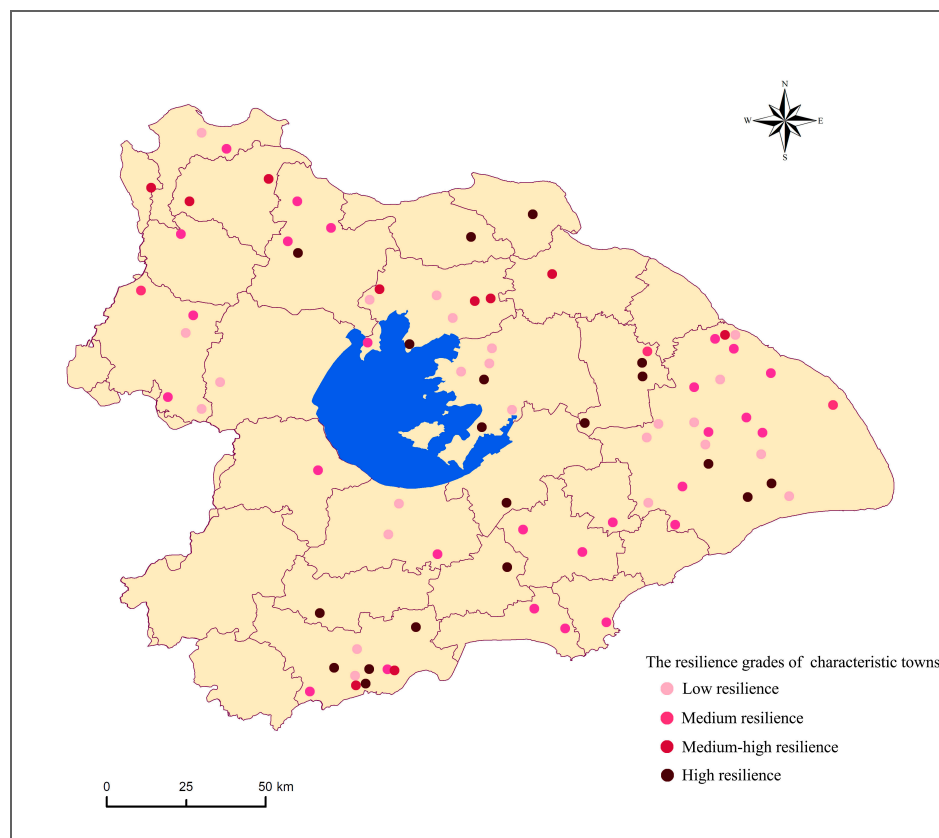
#### 4.2.2. The Analysis of Resilience Level

This paper classified the resilience level of characteristic towns into four types, including high level, medium–high level, medium level, and low level. As seen in Figure 4, the number of characteristic towns with moderate resilience is the largest, accounting for 36.1%, while those of high resilience and low resilience account for 22.9% and 28.9%, respectively, indicating that the overall ability of characteristic towns in Taihu Lake Basin to cope with external shocks and resist risks is relatively insufficient, and the resilience level needs to be further improved. In terms of spatial distribution, the characteristic towns with medium–high and high levels are mainly concentrated in Hangzhou, Kunshan, Wuxi, and Shanghai, while Huzhou and Liyang have poor resilience levels. In terms of the industry type, the resilience levels of tourism towns, digital economy towns, and modern service towns with distinctive industrial characteristics are higher, while the resilience level of the towns of manufacturing industries, as well as science and innovation with short start times, is low.

#### 4.3. The Analysis of Synergistic Development between Face Value and Resilience

As a whole, most of the characteristic towns in Taihu Lake Basin are not synchronized, and the level of face value is higher than the level of resilience. Among them, 67.5% of the characteristic towns have a large deviation between the face value and resilience, which is not conducive to the high-quality development of the characteristic towns in Taihu Lake Basin. In the unbalanced development of face value and resilience of the characteristic towns, only a few characteristic towns have better resilience, but face value is relatively lacking, and the towns with a higher deviation of resilience are Kunshan Kunqu Town, Zhixi Guangcai Town, Chuansha Cultural Tourism Town, Zhuanghang Net Red Economic Town, Fuyang Silicon Valley Town, etc. Most characteristic towns have a high level of face value but weak resilience, which include Xizhu Yunhu Tea Zen Town, Yangshan Taoyuan Style Town, Wangzhuang Intelligent Equipment Town, Nanshan Bamboo Sea StyleTown, Liyang

LiXiang Town, West Lake Longwu Tea Town, Yuhang Mengqi Town, Oriental Financial Town, and so on. If we only focus on face value but ignore the resilience of the industrial chain and the enhancement of added value, it is detrimental to the transformation and upgrading of the characteristic towns. For the characteristic towns with better synchronized development of face value and resilience, they have a better ability to cope with external shocks and resist risks but slightly lacking in face value shaping (Figure 5). Therefore, in order to promote the green and high-quality development of the characteristic towns in Taihu Lake Basin, it is necessary to pay great attention to the coordinated development of their face value and resilience.

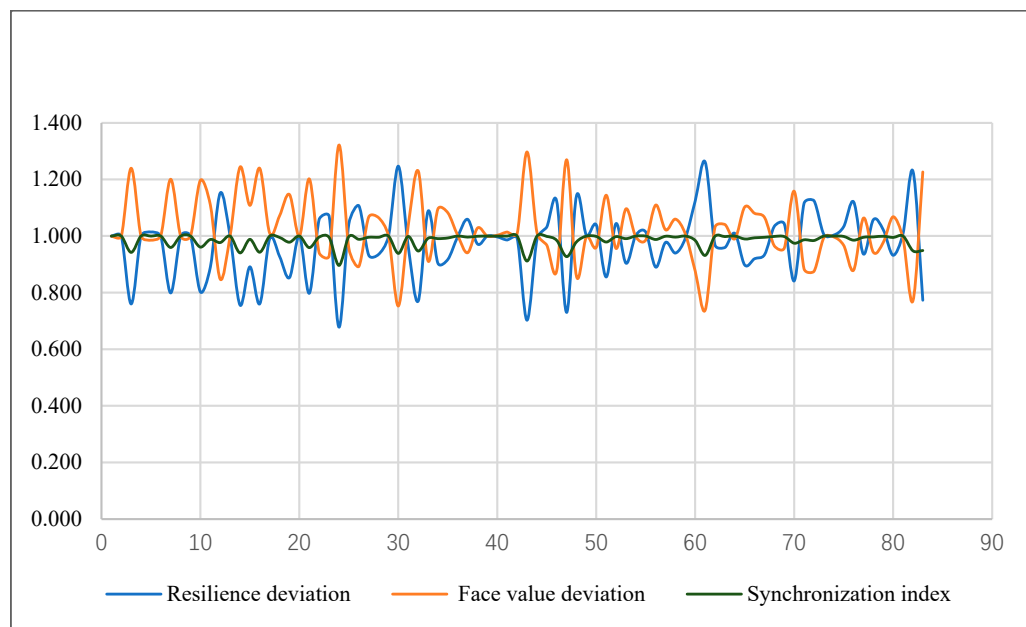


**Figure 4.** The distribution of characteristic towns' resilience level in Taihu Lake Basin.

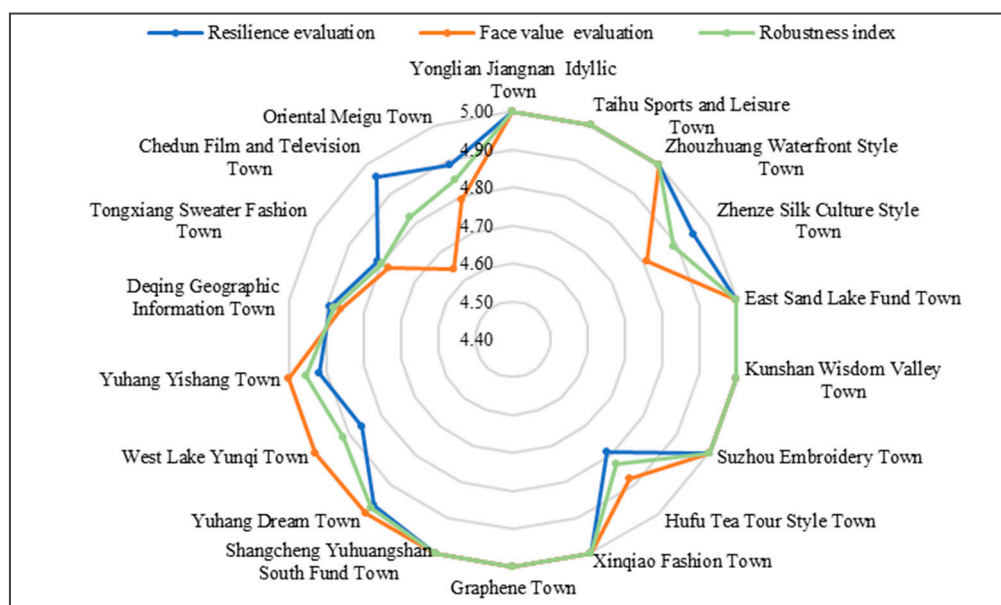
In order to further analyze the robustness degree of the synergistic development of face value and resilience about different types of characteristic towns, this paper calculates the robustness index based on their face value and resilience assessment results and their synchronization indices and classifies 83 characteristic towns into four categories: high robustness ( $H_j > 4.80$ ), medium-high robustness ( $4.02 \leq H_j \leq 4.79$ ), medium robustness ( $4.03 \leq H_j \leq 3.11$ ) and low robustness ( $H_j < 3.10$ ) (Figures 6–9). Firstly, the high robustness areas are mainly distributed in Suzhou–Wuxi–Changzhou and the northern part of Zhejiang. The leading industries of these characteristic towns are mainly the digital economy and the cross-border integration of cultural and tourism industries. There is a superior living environment, complete transportation facilities, and outstanding advantages in talent gathering, which help the economy recover from shocks and improve its ability to adapt to new environments. Secondly, the total number of towns of medium-high robustness is 24, which lacks the synchronization of face value and resilience and mainly develops the industries of intelligent manufacturing and information finance. Thirdly, the number of characteristic towns with medium robustness is the largest, mainly developing equipment manufacturing and modern service industries, and the spatial distribution is also scattered, but there is great potential for spatial development. Finally, there are 12 characteristic



towns with low robustness, most of which have short establishment times and unstable development. The deviation of face value and resilience of these characteristic towns is more obvious, which shows that the characteristic towns with high face value have low resilience, and the characteristic towns with high resilience have a low face value, thus affecting the further improvement of their robustness level.



**Figure 5.** The curve chart on the synchronization development index and deviation index of face value and resilience of 83 characteristic towns in Taihu Lake Basin.



**Figure 6.** The index of high robustness characteristic towns.

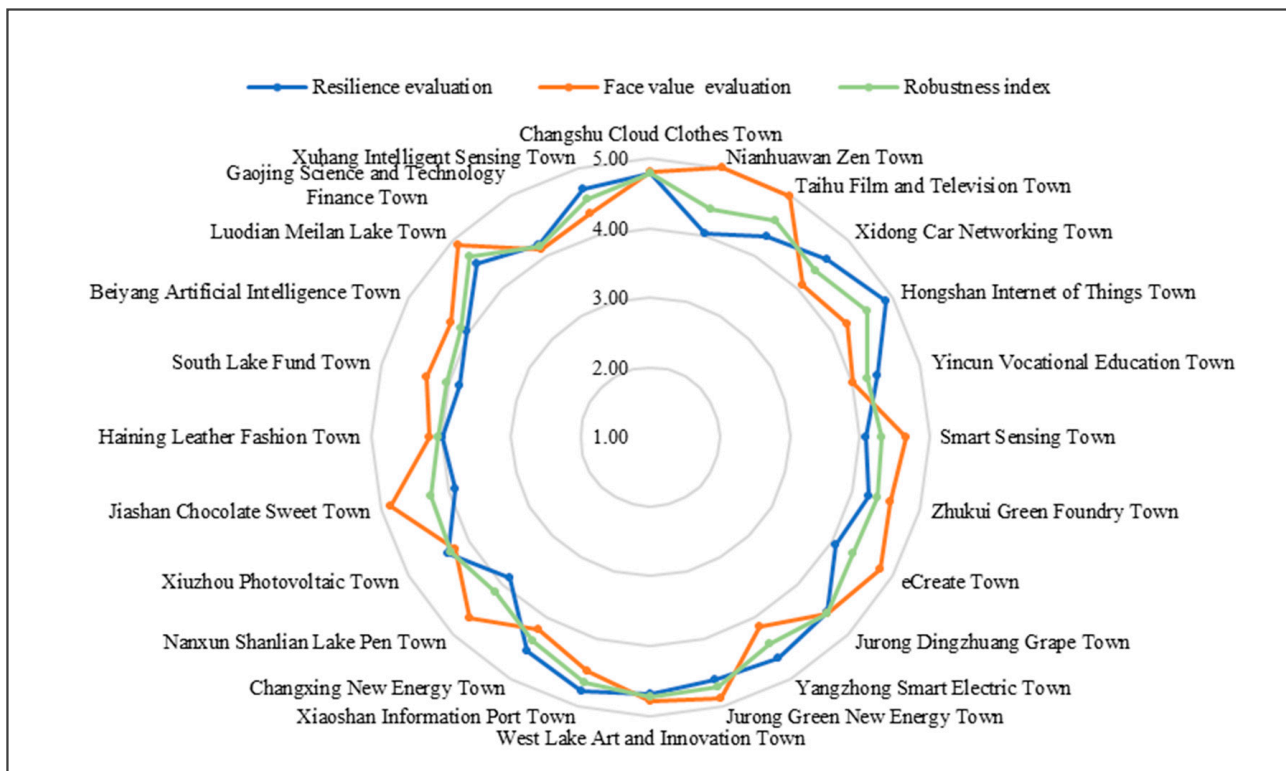


Figure 7. The index of medium-high robustness characteristic towns.

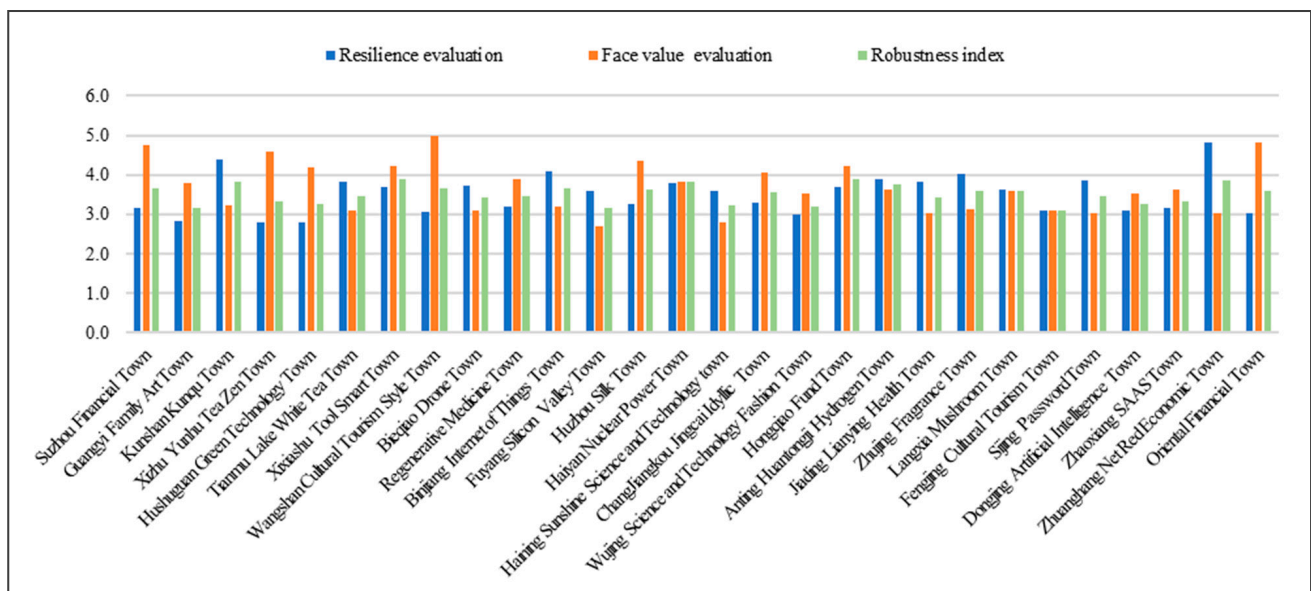


Figure 8. The index of medium robustness characteristic towns.

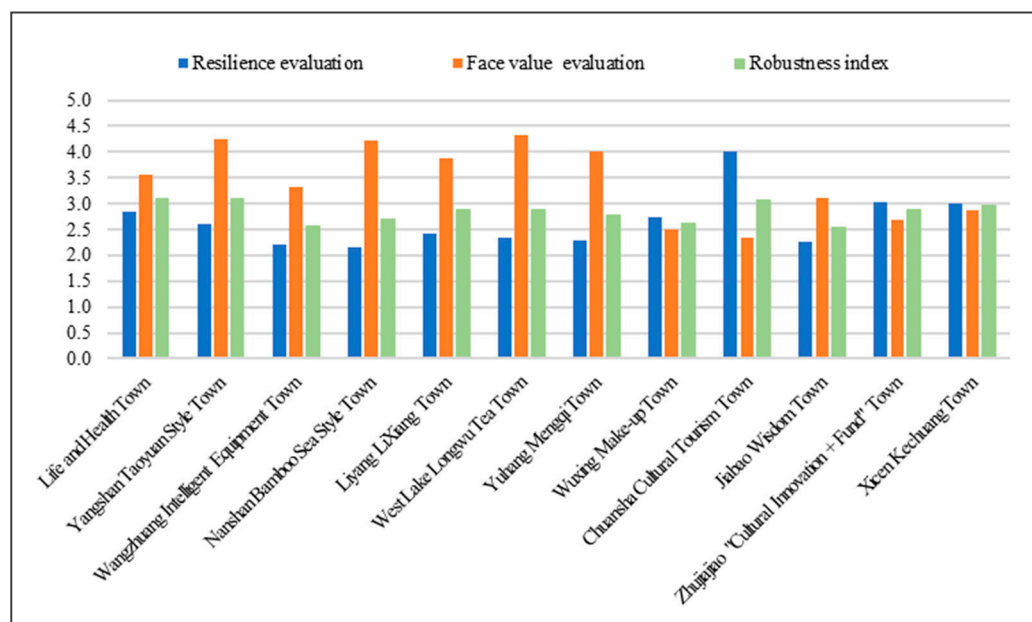


Figure 9. The index of low robustness characteristic towns.

## 5. Discussion and Development Paths

Based on the analysis of the robustness of the synergistic development between the face value and resilience, it can be seen that the high face value of characteristic towns lies in the scientific utilization of the environmental advantages and the sustainable release of ecological dividends on the basis of not destroying the ecology to boost the economic development of the town. The strong resilience of characteristic towns lies in the accurate positioning of the special industries and industrial integration and function expansion to promote sustainable development of the towns and enhance the ability to resist any economic shocks and become self-sufficient. Therefore, in order to realize the synergistic development of the face value and resilience of the characteristic towns, improve their robustness level, and promote green and high-quality development, this study proposes differentiated enhancement paths and corresponding safeguard mechanisms (Figure 10).

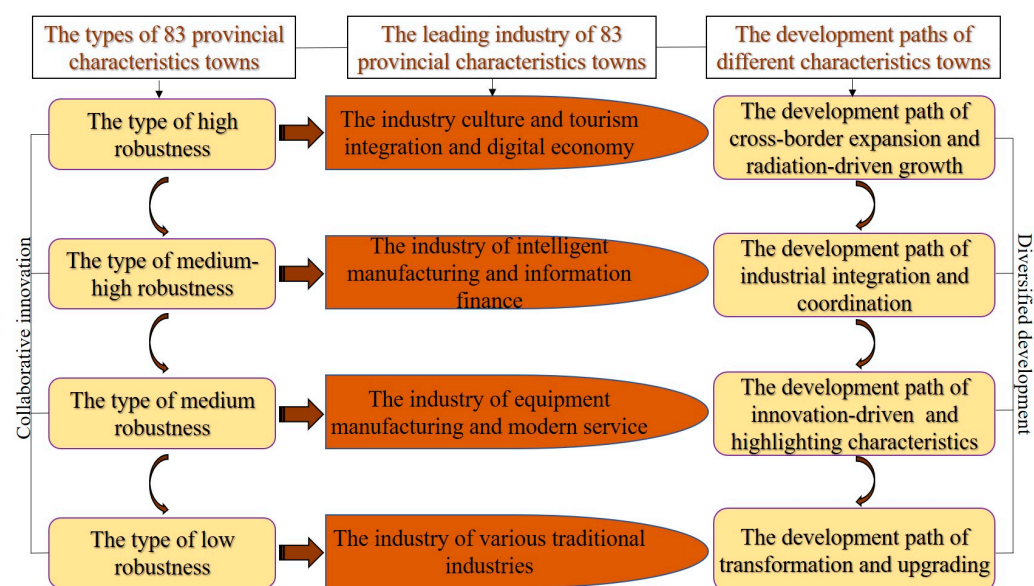


Figure 10. The green and adaptive paths about different types of characteristic towns.

For the characteristic towns in the high robustness area, the industry is mainly cultural tourism integration and digital economy, so we propose the development path of cross-border expansion and radiation-driven growth. It is necessary to further promote the leapfrog growth and breakthrough innovation of enterprises by deepening the cross-border integration of leading industries and activating the new momentum for the development of the characteristic town using the digital economy. The advantages of the central cities of Hangzhou, Shanghai, and Suzhou should be exploited to further enhance the radiation power of the characteristic towns to the neighboring cities, and then the neighboring cities can make use of the regional resource concentration to form development advantages, appropriately realize the transfer of advantageous resources from the central cities to the neighboring cities, smooth the blockage between the cities and countryside, and further enhance the resilience level of the towns from the macro and micro levels. At the same time, it will continue to improve the ecological quality of this area, create an ecological science town and achieve green, innovative, and high-quality development.

For the characteristic towns in the medium–high robustness area, we propose the development path of industrial integration and coordination. In order to further enhance the degree of synchronization between the face value and resilience, it is necessary to continuously optimize and improve the ecosystem, enhance the resilience of the industrial chain, and promote the integration of production, life, and ecology in characteristic towns by means of coordination and integration. On the one hand, we must promote the innovative development of characteristic towns' industries in medium–high robustness areas by promoting the integration of the intelligent manufacturing industry, the financial information service industry, and the local special culture and tourism. On the other hand, we should further promote the integration of production and life to enhance the community service function of the characteristic towns. At the same time, it is necessary to promote the integration of production and ecology in order to fully release the town's internal development momentum and form a strong adsorption force for external high-end elementary resources.

For the characteristic towns in the medium robustness area, we put forward the development path of the innovation-driven concept and highlight characteristics. First of all, we should highlight the innovation-driven concept, promote the advantageous industries of the manufacturing town and modern service town in this region to deepen and cluster development, formulate practical innovation support policies, encourage enterprises to carry various innovative activities, and promote the integration of "industrial chain, innovation chain, capital chain, and service chain". Secondly, we should pay special attention to the excavation of non-traditional concepts of special industries, through support and guidance, to foster the development of a number of new industries and new business models with the organic combination of culture and tourism. Finally, we should highlight ecological protection and promote the synergistic development of ecological construction and industrial innovation in characteristic towns.

For the characteristic towns in the low robustness area, we put forward the development path of industrial transformation and upgrading. Through professional top-level design, we should explore more new industries of adaptability, seek the transforming and upgrading of the town's traditional industries, expand the leading industrial chain with new technologies and products, make the low-value-added industrial chain continually extend to product deep processing, parts manufacturing, marketing planning, brand building, and supporting services integrated product line, improve the industrial chain grading and industrial agglomeration capacity, and form a clearly positioned and distinctive industrial cluster. In addition, the characteristic industrial structure should be dynamically adjusted, and resource-based industries are replaced by resource deep processing industries, realizing the internal industrial restructuring and focusing on enhancing the degree of economic resilience.

Therefore, for different robustness types of characteristic towns, we should adhere to the concept of differential positioning and staggered development, emphasize that a

characteristic town corresponds to a characteristic industry, and increase the vitality of the characteristic towns. More importantly, we must establish synergistic cooperation and governance mechanism of multiple subjects and corresponding legal regulations for the achievement of balanced development in characteristic towns. Specifically, it is necessary to build a new pluralistic governance model, emphasizing the plurality of subjects involved in the governance of public affairs of the characteristic town. The town government should pay attention to the innovation of the governance concept, and actively guide the construction of one principal and multiple governance structures while playing a leading core role. Local organizations play the role of helping and assisting by establishing a trusted community with the town and integrating the multiple wishes of villagers in the town. The new able villagers are the front-runners and elite class of the town, and their right to speak should be respected and protected, and their initiative to participate in the governance of the town should be mobilized. The villagers are the main subjects of governance in the town, and we should encourage all villagers to participate in the governance of the characteristic towns. Moreover, we need to establish the mechanism of resource sharing and responsibility sharing among multiple subjects, ensure the function of multiple governance subjects and benign interaction to activate various resource elements in the characteristic town, enhance the synergy level between the face value and resilience, and promote the economic and social development in all aspects of the characteristic towns in Taihu Lake Basin.

## 6. Conclusions

By constructing a systematic evaluation index system, this paper scientifically classified the face value and resilience of Taihu Lake Basin into high level, medium-high level, medium level, and low level, respectively, and explored the intrinsic influence mechanism of the deviation between the face value and resilience on the high-quality development. The findings are as follows:

- (1) The face value of about 60% of the characteristic towns is above average. Spatially, the overall face value level of the characteristic towns in the northern and southeast regions is higher than that of other regions. In terms of the industry type, the face value level of characteristic towns of tourism, digital economy, information, and finance is high, while that of the manufacturing type is relatively low;
- (2) The number of characteristic towns with moderate resilience is the largest, accounting for 36.1%, while those of high resilience and low resilience account for 22.9% and 28.9%, respectively. Spatially, the characteristic towns with medium-high and high levels are mainly concentrated in Hangzhou, Kunshan, Wuxi, and Shanghai. In terms of the industry type, the resilience level of tourism towns, digital economy towns, and modern service towns with distinctive industrial characteristics is higher;
- (3) The face value and resilience of most characteristic towns in Taihu Lake Basin are not synchronized, and 67.5% of the towns have a large deviation which is not conducive to high-quality development in the region. We classify 83 characteristic towns into four categories: high robustness ( $H_j > 4.80$ ), medium-high robustness ( $4.02 \leq H_j \leq 4.79$ ), medium robustness ( $4.03 \leq H_j \leq 3.11$ ), and low robustness ( $H_j < 3.10$ ), and the high robustness areas are concentrated in Suzhou–Wuxi–Changzhou and the northern part of Zhejiang;
- (4) The differentiated development paths of synergistic development between the face value and resilience are proposed, which includes the paths of cross-border expansion and radiation-driven development, industrial integration and coordination, innovation-driven and highlighting characteristics, transformation, and upgrading. In addition, we suggest the establishment of synergistic cooperation and governance mechanism of multiple subjects for the achievement of balanced development in characteristic towns.

The innovation of science in this paper is reflected in two aspects. On the one hand, from the synergistic perspective of face value and resilience, we explored the internal



relationship and robustness level between the face value and resilience of the characteristic towns and their mechanism of action. On the other hand, based on a comprehensive analysis of face value level and resilience level, we proposed diversified and adaptable development paths and suggested the synergistic cooperation and governance mechanism of multiple subjects for the achievement of balanced development in characteristic towns. Therefore, the conclusions of this study have important research value and practical significance. Firstly, it can guide similar cities to effectively use their advantageous resources and improve the synergistic development level of the face value and resilience of the characteristic towns; Secondly, this study also helps to address the lack of existing research and provides new evidence for the green and high-quality development of the characteristic towns from a broader perspective. Finally, it has implications for different types of characteristic towns' planning, design, conservation, and promotional efforts.

This research has some limitations that can be mitigated in future work. For example, considering that there is no uniform standard for the classification of face value and toughness level, we can continue to strengthen the research on this aspect in the future. In addition, this study is only an assessment framework constructed from a generalizability perspective. However, there is variability in the leading industries of the characteristic towns, and different types of industry types have special attributes in the indicators of their face value and resilience measurement. Therefore, horizontal comparisons should also be made in the assessment. Future research should improve the evaluation index of face value and resilience and further explore their coupling and coordination relationship.

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