Causal Analysis of Spatial Differentiation in Tourism Development Level during the High-Quality Development Stage: A Factor Decomposition-Based Empirical Postprint in the Yellow River Basin

Authors: Tian Xiaobo, Hu Jing, Jia Yaoyan, Zhu Lei, Hu Jing

Date: 2023-04-07T16:52:45+00:00

Abstract

Grounded in the stage-specific evolution of tourism development determinants, this study constructs an indicator system for factors influencing tourism development during the high-quality development phase, and employs Geographical Detector and Geographically Weighted Regression (GWR) to investigate the spatial heterogeneity mechanisms underlying tourism development levels in the Yellow River Basin in 2019. The findings reveal that: (1) In the new development stage, regional tourism development is shaped by both conventional factors and emerging factors such as the new development philosophy, collectively constituting the determinant system for regional tourism development in the high-quality development phase. (2) Tourism development levels in the Yellow River Basin exhibit a spatially differentiated pattern of progressive decline from downstream to upstream regions, with pronounced internal disparities in the upper and middle reaches compared to the lower reach, and a notable supply-demand mismatch across the three reaches. (3) At both individual and comprehensive dimensional levels, all factors demonstrate significant impacts on tourism development, with emerging factors exerting stronger influences than conventional ones. The effect magnitude rankings of factors display consistency, and tourism development is more substantially influenced by interfactor synergistic interactions. (4) Among conventional factors, consumption level, transportation accessibility, and tourism resource endowment, and among emerging factors, innovation capacity and green production, exert significant spatially heterogeneous effects on tourism development, though the nature of their heterogeneous spatial effects varies.

Full Text

Exploring the Causes of Spatial Differentiation in Tourism Development Level During the High-Quality Development Stage: An Empirical Study of the Yellow River Basin Based on Factor Decomposition

TIAN Xiaobo[1,2], **HU Jing**[1,2], **JIA Yaoyan**[3], **ZHU Lei**[4]

[1]College of Urban and Environmental Science, Central China Normal University, Wuhan 430079, Hubei, China
[2]Wuhan Branch of China Tourism Academy, Wuhan 430079, Hubei, China
[3]Faculty of Culture and Tourism, Shanxi University of Finance and Economics, Taiyuan 030031, Shanxi, China
[4]College of Resources and Environment, Anqing Normal University, Anqing 246133, Anhui, China

Abstract

Based on the stage-specific changes in tourism development influencing factors, this study constructs an indicator system for factors affecting tourism development during the high-quality development stage and employs geodetector and geographically weighted regression methods to explore the spatial differentiation causes of tourism development levels in the Yellow River Basin in 2019. The results indicate: (1) In the new development stage, regional tourism development is influenced by both traditional factors and new factors such as the new development concept, which together constitute the influencing factor system for regional tourism development in the high-quality development stage. (2) The tourism development level in the Yellow River Basin exhibits a spatial differentiation pattern of gradual decline from downstream to upstream, with relatively large internal differences in the middle and upper reaches and smaller differences in the downstream region, along with a notably significant mismatch between supply and demand across the three reaches. (3) In both single and comprehensive dimensions, all factors exert significant influence on tourism development, with new factors demonstrating stronger effects than traditional factors. The influence ranking of each factor shows consistency, and tourism development is more substantially affected by synergistic interactions among factors. (4) Among traditional factors, consumption level, transportation conditions, and tourism resource endowment, and among new factors, innovation capacity and green production, all have significant spatially heterogeneous impacts on tourism development, though their heterogeneous spatial effects differ.

Keywords: tourism development level; high-quality development stage; influencing factors; spatial heterogeneity; Yellow River Basin

---

The report of the 19th National Congress of the Communist Party of China ex-

plicitly stated that China's economy has transitioned from a high-speed growth stage to a high-quality development stage. Since then, high-quality development has become a hot topic in academic circles, with numerous related studies emerging. In the tourism sector, the Chinese government has issued a series of policy documents since the 19th Congress proposed the shift to high-quality development. For instance, the 2018 Central Economic Work Conference explicitly called for promoting high-quality tourism development. In 2020, ten ministries and commissions including the Ministry of Culture and Tourism and the National Development and Reform Commission jointly issued the "Opinions on Deepening 'Internet + Tourism' to Promote High-Quality Tourism Development." The "14th Five-Year Plan for Culture and Tourism Development" issued by the Ministry of Culture and Tourism in 2021 takes high-quality development as a central theme throughout. These national-level documents not only require the tourism sector to actively implement the high-quality development strategy but also indicate that China's tourism industry has entered a new era of high-quality development. In academic research, many scholars have divided the development stages of China's tourism industry over the 40-plus years since the reform and opening up, with most identifying 2018 as the starting year for China's tourism industry to enter the high-quality development stage. Therefore, both policy orientation and academic research generally agree that China's tourism high-quality development began in 2018. However, after entering this stage, what factors will influence tourism development? How do the five new development concepts and other influencing factors differentially affect tourism development levels during the high-quality development stage? Do all these factors exhibit spatial differentiation in their impacts on tourism development? Analyzing these questions is crucial for improving the indicator system of influencing factors for tourism high-quality development, deeply grasping the driving factors and their magnitude in the new era, and thus analyzing the influencing mechanisms of tourism high-quality development.

Tourism high-quality development is an academic proposition with Chinese characteristics. Existing research has mainly focused on theoretical connotation discussions, development level measurement, and characteristic evolution. In measuring high-quality development levels, the five new development concepts have become the theoretical cornerstone and mainstream dimension for constructing evaluation indicator systems. In fact, the new development concept is not only the theoretical basis and measurement standard for understanding tourism high-quality development but also the core element affecting tourism development levels during the high-quality development stage. However, current research on influencing factors of tourism high-quality development mostly focuses on the main contradictions and tasks faced by tourism development before the high-quality development stage, examining the influences of economic level, consumption level, industrial structure, transportation conditions, and other factors, without fully considering the impacts of core high-quality development factors such as innovation, coordination, green development, openness, and sharing in the new development stage. This cannot comprehensively sum-

marize the influencing factors of tourism development during the high-quality development stage.

Meanwhile, as an important pole in China's regional development pattern, the Yellow River Basin's high-quality development has been elevated to a national strategy since the 2019 Zhengzhou Symposium. Although scholars have actively explored high-quality development in different fields of the Yellow River Basin, current research pays relatively little attention to tourism high-quality development in this region, and there is still a lack of studies that decompose influencing factors according to tourism development stages and then explore their impacts on tourism development.

High-quality development is the core theme of China's tourism industry in the current and future period. Facing the major transformation from speed and scale to quality and efficiency, actively analyzing influencing factors during the high-quality development stage is significant for constructing and improving the indicator system of influencing factors for tourism high-quality development and serving the high-quality development of tourism in the Yellow River Basin. Therefore, this study starts from the basis for dividing tourism high-quality development stages, sorts out the influencing factors of tourism development before and after entering the high-quality development stage, and constructs an indicator system for influencing factors of tourism development during the high-quality development stage. Second, taking the Yellow River Basin as an example, this study uses geodetector to analyze the specific roles of different influencing factors, especially the impacts of the new development concept—the core factor of high-quality development—on tourism development. Finally, the geographically weighted regression (GWR) model is employed to explore the spatial heterogeneity of different factors' impacts on tourism development, aiming to deepen theoretical understanding of tourism development influencing factors, enrich empirical analysis of influencing factors during the high-quality development stage, and provide references for high-quality tourism development in the Yellow River Basin.

1 Study Area Overview

The Yellow River's main stream stretches 5,464 km, making it China's second-longest river. Flowing from west to east, it passes through nine provinces (autonomous regions): Qinghai, Sichuan, Gansu, Ningxia, Inner Mongolia, Shaanxi, Shanxi, Henan, and Shandong, covering a drainage area of 752,000 km^2. The Yellow River Basin is the primary cradle of Chinese civilization, profoundly influencing the course of Chinese civilization and bringing significant impacts to human civilization. It is also a major region for China's ecological security barrier and holds a vital strategic position in China's economic and social development. According to statistics, the basin encompasses 9 provinces (autonomous regions) with a total population of approximately 420 million, accounting for about 30% of the national population. In 2019, domestic and inbound tourists received by the 9 provinces (autonomous regions) in the

Yellow River Basin accounted for 24.77% and 13.19% of the national total, respectively, while the growth rates of domestic tourist arrivals and domestic tourism revenue were 18.02% and 15.09%, respectively, significantly higher than the national average of 11.7%. Moreover, this region possesses rich and diverse ethnic customs, magnificent natural landscapes, and long-standing traditional culture, resulting in characteristics of abundant tourism resources, strong representativeness, and wide coverage. Statistics show that the Yellow River Basin's world cultural heritage sites account for 15.43% of the national total, and the distribution density of national key cultural relics protection units is 1.8 times the national average. The construction of four national cultural parks—the Long March, Yellow River, Great Wall, and Grand Canal—all involve the Yellow River Basin.

2 Data and Methods

2.1 Data Sources

As existing research does not have a unified definition of the Yellow River Basin's spatial scope, this study comprehensively considers the basin's natural environmental characteristics and socio-economic connections while ensuring the integrity of prefecture-level administrative boundaries. Following the spatial scope division by Yang Yongchun et al., the study area is defined as 73 prefecture-level units within the Yellow River Basin (excluding the Xilingol League). Specific indicator data for all variables involved in this study are sourced from the 2019 statistical yearbooks of 9 provinces (autonomous regions) in the Yellow River Basin, the 2019 national economic and social development statistical bulletins of 73 prefecture-level units, and the *China City Statistical Yearbook*. Tourism resource endowment data are obtained from the official websites of the Ministry of Culture and Tourism, and culture and tourism departments of the 9 provinces (autonomous regions). Regional total factor productivity is calculated using the method of Guo Qingwang et al.

2.2.1 Tourism Development Index

Entering the high-quality development stage, interactions among tourism subjects, objects, and media have become more complex and diversified, and their interrelationships more easily affect high-quality tourism development. Therefore, a systems theory approach that examines relationships among different subjects can be considered to build an analytical model for comprehensively grasping tourism development. Xi Jianchao et al. constructed a tourism development index model based on tourism systems theory, which systematically organizes tourism subjects, objects, and media elements into an integrated whole and measures tourism development levels from the perspective of element-structure interactions, making it a suitable theoretical model for measuring tourism development levels during the high-quality development stage. Accordingly, this study follows Xi Jianchao et al. to comprehensively measure regional tourism

development levels from three dimensions: subject demand, media development, and object supply.

The tourism development index is calculated as:

$$T = S \times M \times O$$

where T is the tourism development index constructed based on the "tourism three bodies" model, and S, M, and O represent subject demand, media development, and object supply, respectively.

Population size and per capita disposable income are the main determinants of tourism demand. The former determines the potential number of tourists, while the latter determines the intensity of tourism demand. Therefore, subject demand is calculated as:

$$S = I \times P$$

where S is subject demand, I is per capita disposable income, and P is population size.

In the "tourism three bodies" model, media includes transportation, information, and marketing services related to tourism activities. Considering data availability, this study measures media development using transportation network density and internet penetration rate:

$$M = \alpha_1 m_1 + \alpha_2 m_2$$

where M is media development, m_1 is transportation network density, m_2 is internet penetration rate, and α_1 and α_2 are weights for transportation network density and internet penetration rate, respectively. Following Xi Jianchao et al., both weights are set at 0.5.

Tourism objects consist of a system of different tourism elements, generally including tourist attractions, facilities, and services. Although destination elements are complex, high-quality tourism resources remain the primary productive force for regional tourism development and the core of object supply. Therefore, this study uses the sum of world heritage sites, excellent tourism cities, national scenic spots, and A-level and above tourist attractions to represent the supply of high-quality tourism resources and constructs the object supply index as:

$$O = \frac{H + C + S + N}{P}$$

where O is object supply, H, C, S, and N represent the numbers of world heritage sites, excellent tourism cities, national scenic spots, and A-level and above tourist attractions, respectively, and P is population size.

2.2.2 Geodetector

Geodetector is a statistical method for detecting spatial differentiation and revealing its underlying driving forces. This study employs the factor detector in Geodetector to analyze the spatial heterogeneity impacts of different variables on tourism development in the Yellow River Basin and uses the interaction detector to analyze the interactive effects of explanatory variables on the dependent variable. The detection results are represented by the q statistic:

$$q = 1 - \frac{\sum_{h=1}^{L} N_h \sigma_h^2}{N\sigma^2}$$

where q is the detection value of the influencing factor's explanatory power for tourism development level; N and N are the number of units in the detection element layer and the entire region, respectively; σ^2 and σ^2 are the variances of the Y value (tourism development index) in the detection element layer and the entire region, respectively; and h (h = 1, 2, …, L) is the stratification of variable Y or factor X, where L is the maximum number of strata. The q value ranges from [0, 1]. A larger q value indicates stronger explanatory power of each influencing factor on the Y value, and vice versa.

2.3 Variable Determination

For regional tourism development, analyzing its structure and elements from the tourism system perspective helps grasp the interactions among various internal system elements. Many scholars have proposed tourism system models from different perspectives, including representative foreign models such as Gunn's tourism function system model, Leiper's tourism geography system model, and domestic models by Wu Bihu and Yang Xinjun. These models effectively explain the supply-demand relationship between origin and destination areas and the spatial processes of tourism activities. Xi Jianchao et al. summarized that existing tourism system models can be generalized as the "tourism three bodies" theory, comprising tourism subjects, objects, and media. Subjects are tourists, the demand generators. Media are the connecting links between subjects and objects, including transportation facilities, information networks, and marketing services. Objects are the destination system, including tourist attractions, facilities, and services. The simultaneous presence of these three bodies generates tourism activities, and their interactions form the tourism system, constituting the basic theoretical model for tourism system analysis.

Existing studies have found that regional tourism development is mainly influenced by regional policies, management systems, market demand, tourism resource endowment, economic level, transportation conditions, and industrial development (hereinafter referred to as traditional factors). However, as the main contradictions in China's tourism development have shifted, innovation, coordination, green development, openness, and sharing (hereinafter referred to as new factors) have become key drivers for promoting high-quality tourism

development in the new era. Tourism development is increasingly influenced by these new factors in addition to traditional ones. Therefore, to accurately measure the impacts of traditional and new factors on tourism development levels after entering the high-quality development stage, this study constructs an indicator system for tourism development influencing factors that includes both traditional and new elements based on previous research findings.

As shown in , the indicator system consists of independent and dependent variables. Independent variables include traditional and new factors. Traditional factors comprise six indicators (X_1–X_6), while policy and management systems are excluded due to difficulty in objective and accurate representation. New factors consist of five indicators (X_7–X_{11}). The dependent variable is tourism development level, measured by the tourism development index. also reports descriptive statistics for each variable, presenting minimum, maximum, mean, and standard error values for 73 prefecture-level units in the Yellow River Basin.

3 Results and Analysis

3.1 Spatial Pattern of Tourism Development Level

The tourism development index and its three dimensions—subject demand, media development, and object supply—were calculated for 73 prefecture-level units in the Yellow River Basin. The results were imported into ArcGIS 10.2 software and classified into five grades using the natural breaks method, revealing the spatial pattern characteristics shown in [Figure 1: see original paper].

The spatial differentiation characteristics of tourism development levels in the Yellow River Basin are evident: (1) The middle and lower reaches, such as Guanzhong in Shaanxi, Henan, and Shandong, show significantly higher tourism development levels than other areas, presenting an overall pattern of gradual decline from downstream to middle to upstream. Provincial capitals demonstrate notably higher tourism development levels than other cities, such as Xi'an, Zhengzhou, and Jinan in the middle and lower reaches, and Lanzhou, Yinchuan, and Hohhot in the upper reaches. (2) Except for provincial capitals, cities in the middle and lower reaches generally exhibit higher tourism development levels, such as Xianyang and Weinan in the middle reaches, and Luoyang, Kaifeng, and Tai'an in the lower reaches. (3) Differences between cities in the middle and upper reaches are substantial, while differences in the downstream region are relatively small. Comparing the spatial differentiation patterns of subject demand and object supply reveals a significant supply-demand mismatch in the Yellow River Basin's tourism development. Most cities in the middle and upper reaches show weak demand but high supply levels, while downstream cities have relatively strong overall demand but not necessarily absolute supply advantages.

Regarding the three tourism body dimensions, the differentiation patterns of each dimension are generally consistent with the overall tourism development level pattern, all showing a declining trend from downstream to upstream. Provincial capitals hold advantages across all development dimensions. How-

ever, in object supply, some cities in the middle and upper reaches also demonstrate clear advantages, such as Xianyang, Weinan, Aba Prefecture, and Ordos. This comparison reveals a serious supply-demand mismatch phenomenon in the Yellow River Basin's tourism development.

3.2 Traditional Factor Detection Analysis

To meet Geodetector's data type requirements, each independent variable was first discretized using the "means" tool in SPSS 22.0. After multiple trials, classifying independent variables into six categories yielded the maximum q value, meeting Geodetector's optimal classification effect requirements.

Single-factor detection results show that except for industrial structure (X_3), economic level (X_1), consumption level (X_2), urbanization level (X_6), tourism resource endowment (X_5), and transportation conditions (X_4) all have significant impacts on tourism development (). Based on q values, the influence ranking is: consumption level > tourism resource endowment > urbanization level > transportation conditions > economic level, indicating that during the high-quality development stage, consumption level has the greatest impact on the Yellow River Basin's tourism development, while economic level has the weakest impact, consistent with the new era's reliance on domestic demand to drive socio-economic development. Regarding interaction effects, most factor pairs show bivariate enhancement, with the rest showing nonlinear enhancement. All interactive effects are greater than single-factor effects, indicating that synergistic interactions among traditional factors are more conducive to promoting tourism development.

3.3 New Factor Detection Analysis

Consistent with the traditional factor processing method, each new factor was first discretized. After multiple experiments, classification into six categories yielded the maximum q value. Single-factor detection results show that openness (X_7), innovation capacity (X_8), regional coordination (X_9), and green production (X_{11}) significantly affect tourism development in the Yellow River Basin, while production efficiency (X_{10}) fails the significance test (). In terms of influence magnitude, the ranking is: innovation capacity > openness > regional coordination > green production, indicating that among new factors, innovation capacity has the strongest effect, followed by openness, with green production having the weakest effect. Regarding interaction effects, except for the nonlinear enhancement between regional coordination and production efficiency, and between production efficiency and green production, all other factor pairs show bivariate enhancement. The interactive effects of new factors on tourism development are significantly stronger than single-factor effects, indicating that interactions among the five new development concepts are more conducive to improving tourism development quality in the Yellow River Basin.

3.4 Comprehensive Detection Analysis

To examine the spatial heterogeneity impacts of traditional and new factors on tourism development, the GWR model was employed. First, each continuous independent variable was discretized. Through the "means" classification method, six categories yielded the maximum q value as the most appropriate discretization scheme.

Traditional and new factors were jointly included as explanatory variables to comprehensively examine their impacts on tourism development levels in the Yellow River Basin. To ensure explanatory variables met GWR's multicollinearity-free requirement, SPSS 22.0 was first used to test variable significance and multicollinearity. Results showed that among traditional factors, consumption level, transportation conditions, and tourism resource endowment simultaneously passed significance and multicollinearity tests (), with R^2 and adjusted R^2 values of 0.612 and 0.587, respectively. Therefore, these three variables were included in the traditional factor analysis. Among new factors, innovation capacity and green production passed the tests (), with R^2 and adjusted R^2 values of 0.543 and 0.512, respectively. Thus, innovation capacity and green production were included in the new factor analysis.

3.5 Spatial Heterogeneity Analysis of Influencing Factors

The GWR regression results reveal that traditional factors' influence is consistent with the detection results above, but with R^2 increasing to 0.683 and adjusted R^2 to 0.651, indicating better model applicability for explaining tourism development levels. Regarding specific impacts ([Figure 2: see original paper]), consumption level positively affects tourism development in the Yellow River Basin, with its influence showing a spatial effect of decreasing from west to east. Tourism development in western Qinghai and Gansu is more affected by consumption level, while eastern Inner Mongolia and Shandong are less affected. Transportation conditions show positive effects decreasing from northeast to southwest, with northeastern Inner Mongolia and Shanxi, and Shandong being more constrained by transportation conditions, while southwestern Qinghai, Gansu, and Guanzhong in Shaanxi are less affected. Tourism resource endowment shows positive effects with greater impacts in the upper and lower reaches than in the middle reaches.

In the new factor analysis, R^2 increased to 0.721 and adjusted R^2 to 0.694, indicating even greater explanatory power and suggesting that new factors have more pronounced heterogeneous spatial effects on tourism development in the Yellow River Basin. Specifically ([Figure 3: see original paper]), innovation capacity's impact decreases from northwest to southeast, with positive but small coefficient differences, indicating that innovation capacity constrains tourism development more in the middle and upper reaches of the Yellow River Basin, related to factors such as insufficient economic levels, underdeveloped markets, and lack of vitality in tourism enterprises. Green production's impact is positive

and decreases from upstream to downstream, with tourism development in upstream Qinghai, Sichuan, and Gansu being more susceptible to green production impacts.

5 Conclusions and Recommendations

This study constructed an indicator system for influencing factors of tourism development during the high-quality development stage, measured tourism development levels in the Yellow River Basin using the tourism development index, analyzed the impacts of traditional factors, new factors, and comprehensive factors on tourism development levels through Geodetector, and explored the spatial heterogeneity of influencing factors. The main conclusions are:

(1) Building upon previous research, this study constructed an evaluation indicator system for regional tourism development influencing factors during the high-quality development stage, comprising traditional and new factors. Traditional factors include economic level, consumption level, industrial structure, transportation conditions, tourism resource endowment, and urbanization level. New factors include openness, innovation capacity, regional coordination, production efficiency, and green production.

(2) Tourism development levels in the Yellow River Basin show a spatial differentiation pattern of gradual decline from downstream to upstream, but this pattern exhibits complex characteristics of multiple nested differences among the three reaches, between cities within the basin, and within each reach. The spatial differentiation patterns of the three tourism body dimensions are consistent with the overall tourism development level pattern, with significant supply-demand mismatches existing among cities in the middle and upper reaches.

(3) Traditional factors, new factors, and comprehensive dimension factors all significantly influence tourism development. Among traditional factors, consumption level has the strongest influence, while economic level has the weakest. Among new factors, innovation capacity has the strongest effect, while green production has the weakest. Comprehensive dimension detection reveals that new factors have stronger impacts on tourism development than traditional factors, and tourism development is more substantially affected by synergistic interactions among factors.

(4) Both traditional and new factors have significant spatially heterogeneous impacts on tourism development in the Yellow River Basin, but with different spatial effects. Among traditional factors, consumption level has greater impacts on the upper reaches, transportation conditions have greater impacts on Inner Mongolia, Shanxi, and Shandong, and tourism resource endowment has greater impacts on the upper and lower reaches. Among new factors, the positive impacts of innovation capacity and green production decrease from upstream to downstream.

The Yellow River Basin holds an extremely important strategic position in China's regional development pattern, and high-quality tourism development is an important path choice for promoting high-quality development in the basin. Based on these findings, the following recommendations are proposed:

(1) Adopt tourism systems theory thinking to comprehensively and accurately grasp the basic "national conditions" of tourism development in the Yellow River Basin, deeply understand the complex nested characteristics of multiple differences between upstream, middle, and downstream regions, between provincial capitals and non-capital cities, and within each reach. Formulate an overall basin tourism development plan, improve the regional tourism coordinated development mechanism, promote solid and in-depth tourism cooperation and exchanges among the three reaches, and further narrow regional disparities in tourism development.

(2) Target high-quality tourism development as the goal orientation, comprehensively analyze constraints on improving tourism development levels, combine the influences of traditional and new factors, and while focusing on single-factor effects, actively explore synergistic effects between the two categories of factors. Construct core factor groups promoting tourism development at different spatial scales and actively promote the free flow of factors across the entire basin to enhance linkages and synergies among factors.

(3) Adapt measures to local conditions, firmly grasp the key factors affecting tourism development quality improvement in different regions, and prescribe targeted solutions to enhance quality. Different regions in the upper, middle, and lower reaches of the Yellow River Basin should accurately identify the main obstacles to further improving tourism development quality and adopt various methods such as optimizing factor combinations, improving tourism infrastructure, stimulating tourism consumption vitality, and enhancing green production levels to address their respective regional weaknesses and improve tourism development levels, thereby promoting high-quality tourism development.

References

[1] Wei M, Li S H. Study on the measurement of economic high-quality development level in China in the new era[J]. The Journal of Quantitative & Technical Economics, 2018, 11: 3-19.

[2] Zhang J G, Hou Y Z, Liu P L, et al. The goals and strategy path of high-quality development[J]. Journal of Management World, 2019, 35(7): 1-7.

[3] Research group of institute of economic research, NDRC. A study on promoting high-quality development of China's economy[J]. Macroeconomics, 2019(2): 5-7.

[4] Wang Y M. Changes unseen in a century, high-quality development, and the

construction of a new development pattern[J]. Journal of Management World, 2020, 36(12): 1-13.

[5] Ren B P. Theoretical interpretation and practical orientation of China's economy from high-speed growth to high-quality development in the new era[J]. Academic Monthly, 2018, 50(3): 66-74, 86.

[6] Yuan B H, Li J W. Research on the path of high-quality development of county economy in Shandong Province under the new development pattern[J]. Shandong Social Sciences, 2021(8): 115-123.

[7] Xia J C, Xu J H. Reform and opening up of tourism in China from 1978 to 2017: Retrospects and prospects[J]. Research on Economics and Management, 2018, 39(6): 3-14.

[8] Zhang C M, Weng S X, Bao J G. The geographical pattern of China's tourism development since the reform and opening up in 1978[J]. Acta Geographica Sinica, 2019, 74(10): 1980-2000.

[9] Hu B M, Huang J. Policy evolution and prospects of China's tourism development among 70 years: A quantitative analysis based on policy texts from 1949 to 2018[J]. Journal of Sichuan Normal University (Social Sciences Edition), 2019, 46(6): 63-72.

[10] Geng S T, Zhang H X. High-quality development of China's tourism industry: Strategic mission, power factors and promotion path[J]. Macroeconomics, 2022(1): 91-101.

[11] He J M. Research on the system and strategy of high-quality development of China's tourism industry in the new era[J]. Tourism Tribune, 2018, 33(10): 9-11.

[12] Sun X, Liu L G, Chen J H. Measuring the high-quality development of China's tourism economy[J]. Statistics & Decision, 2021(17): 126-130.

[13] Wang S M, Chu Y J, Guo A X, et al. Study on high-quality development of tourism economy in 18 key provinces along the One Belt One Road initiative: Based on the measurement of tourism resource conversion efficiency[J]. Scientia Geographica Sinica, 2020, 40(9): 1505-1512.

[14] Liu L K, Liang L T, Gao P, et al. Coupling relationship and interactive response between ecological protection and high-quality development in the Yellow River Basin[J]. Journal of Natural Resources, 2021, 36(1): 176-195.

[15] Fang C L. Spatial organization pattern and high-quality development of urban agglomeration in the Yellow River Basin[J]. Economic Geography, 2020, 40(6): 1-8.

[16] Zhang X C, Gao N, Wang L Y, et al. Evaluation index system and cultivation path of high-quality development of red tourism: A case of red tourist cities[J]. Arid Land Geography, 2022, 45(6): 1927-1937.

[17] Li H F, He Y R, Bi X L. Coupling coordination relationship between ecological environment and high-quality development in Lanzhou section of Yellow River Basin[J]. Arid Land Geography, 2022, 45(4): 1244-1253.

[18] Shi P H, Zhai Y X. Research on the innovative path of cultural relics protection and utilization from the perspective of an integration of culture and tourism: A case study of the Yellow River Basin[J]. Journal of Guangxi Normal University (Philosophy and Social Sciences Edition), 2021, 57(4): 114-128.

[19] Guo Q W, Jia J X. Estimating total factor productivity in China: 1979-2004[J]. Economic Research Journal, 2005(6): 51-60.

[20] Russo A P, Borg J. Planning considerations for cultural tourism: A case study of four European cities[J]. Tourism Management, 2002, 23(6): 631-637.

[21] Wang X Y, Lu X J, Zhu W L. Analysis and evaluation of the influencing factors of tourism development in China's major tourism cities[J]. Economic Geography, 2020, 40(5): 198-209.

[22] Xi J C, Liu M H. Analysis of basic national conditions of China's tourism industry[J]. Journal of Natural Resources, 2019, 34(8): 1569-1580.

[23] Niu Y F. The study on spatial linkage between the supply and demand of tourism[J]. Acta Geographica Sinica, 1996, 51(1): 80-87.

[24] Lu D D, Sun D Q. Development and management tasks of the Yellow River Basin: A preliminary understanding and suggestion[J]. Acta Geographica Sinica, 2019, 74(12): 2431-2436.

[25] Wu B H. Tourism systems: An explanation of tourism activities and tourism science[J]. Tourism Tribune, 1998(1): 20-24.

[26] Liu J M. The background, misunderstanding and grasp of creating holistic tourism[J]. Tourism Tribune, 2016, 31(12): 7-9.

[27] Wang J F, Xu C D. Geodetector: Principle and prospective[J]. Acta Geographica Sinica, 2017, 72(1): 116-134.

[28] An S W, Li R P. Intension and promotion strategy of high-quality development in the Yellow River Basin[J]. Reform, 2020(1): 76-86, 19.

[29] Liu M, Hao W. Spatial distribution and its influencing factors of national A-level tourist attractions in Shanxi Province[J]. Acta Geographica Sinica, 2020, 75(4): 878-888.

[30] Tang Y X, Zuo X, Wu Z F, et al. Construction and empirical study on evaluation index system of high-quality development of tourism economy: Taking Hunan Province as an example[J]. Resource Development & Market, 2021, 37(6): 641-647.

[31] Liu Y J, Han Y J. Factor structure, institutional environment and high-quality development of the tourism economy in China[J]. Tourism Tribune, 2020, 35(3): 28-38.

[32] Yang X J, Liu J M. On tourism function system: Analysis of tourism planning objectives under market orientation[J]. Geography and Geo-Information Science, 1998, 14(1): 60-63.

[33] Fotheringham A S, Brunsdon C, Charlton M E. Quantitative geography: Perspectives on spatial data analysis[J]. Geographical Analysis, 2010, 33(4): 370-372.

[34] Gunn C A, Turgut V. Tourism planning: Basics, concepts, cases[M]. New York: Psychology Press, 2002: 5-23.

[35] Leiper N. The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry[J]. Annals of Tourism Research, 1979, 6(4): 390-407.

[36] Mill R C, Morrison A M. The tourism system[M]. Englewood Cliffs, NJ: Prentice Hall, 1985: 1-80.

Note: Figure translations are in progress. See original paper for figures.