Spatial Effects of Transportation Infrastructure on Inbound Tourism in Belt and Road Initiative Countries: A Multiple Distance Weights Approach (Postprint)

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Abstract

In the context of the Belt and Road Initiative, the interconnectivity of transportation infrastructure has promoted the development of regional inbound tourism, yet few studies have revealed the impact of transportation infrastructure on inbound tourism development from a spatial relationship perspective. This study employs methods such as spatial autocorrelation, kernel density estimation, and spatial econometric models to empirically investigate the spatial effects of transportation infrastructure construction on inbound tourism in Belt and Road countries from 2000 to 2021. The results show that: (1) Transportation infrastructure exhibits a clear "core-periphery" distribution. The railway network is centered on Central and Eastern European countries such as the Czech Republic, Poland, Hungary, and Slovakia, extending toward the northeast of the region. The core area of the highway network is mainly located at the eastern and western ends of the study area, with one end being China, Vietnam, Laos, and Thailand, and the other end being Poland, the Czech Republic, Slovakia, and Lithuania. Airport facilities are concentrated in southern coastal areas, showing a characteristic of high density along the coast and low density inland. (2) The development of inbound tourism exhibits a "core-periphery" diffusion spatial pattern that expands from coastal countries as the core to inland countries. (3) The development of inbound tourism in geographically proximate, economically or institutionally similar countries or regions demonstrates significant positive spatial spillover effects, with spillover coefficients of 0.381, 0.311, and 0.233, respectively, and geographical proximity has the strongest driving effect on inbound tourism development. The development of inbound tourism in countries with similar cultural types shows obvious competitive effects. (4) Transportation infrastructure construction is an important pathway for generating spatial spillovers in inbound tourism. Railway infrastructure generates positive spatial spillover effects on inbound tourism in institutionally similar countries, with a spillover coefficient of 1.507. Highway infrastructure has positive spillovers on inbound tourism in geographically proximate and institutionally similar countries, with spillover coefficients of 0.040 and 0.101, respectively. Aviation infrastructure has a significant driving effect on inbound tourism in institutionally similar countries, and its competitive effect on inbound tourism in geographically proximate countries is relatively pronounced. The research findings hold important value for deepening the understanding of the mechanism underlying the relationship between tourism and transportation in large-scale regions.

Full Text

Spatial Effects of Transport Infrastructure on Inbound Tourism in Countries along the Belt and Road: A Study Based on Multiple Distance Weights

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Abstract: Against the backdrop of the Belt and Road Initiative, the interconnection of transport infrastructure has promoted regional inbound tourism development, yet few studies have examined the impact of transport infrastructure on inbound tourism from a spatial relations perspective. This study employs spatial autocorrelation, kernel density estimation, and spatial econometric models to empirically explore the spatial effects of transport infrastructure construction on inbound tourism in Belt and Road countries from to 2021. The results indicate: (1) Transport infrastructure exhibits a clear "core-periphery" distribution. The railway network centers on Central and Eastern European countries such as the Czech Republic, Poland, Hungary, and Slovakia, extending toward the northeast of the region. The core area of the road network is primarily located at the eastern and western ends of the study area—one end comprising China, Vietnam, Laos, and Thailand, and the other end comprising Poland, the Czech Republic, Slovakia, and Lithuania. Airport facilities cluster in southern coastal regions, showing characteristics of high coastal density and low inland density. (2) Inbound tourism development spatially follows a "core-periphery" diffusion pattern, expanding from coastal countries to inland nations. (3) Inbound tourism development in geographically proximate, economically similar, or institutionally similar countries and regions demonstrates significant positive spatial spillover effects, with spillover coefficients of , , and , respectively. Geographical proximity exerts the strongest driving effect on inbound tourism development, while countries with similar cultural types exhibit competitive effects. (4) Transport infrastructure construction constitutes an important pathway for generating spatial spillovers in inbound tourism. Railway infrastructure produces positive spatial spillovers on inbound tourism in institutionally similar countries, with a spillover coefficient of . Road infrastructure generates positive spillovers on inbound tourism in geographically and institutionally proximate countries, with spillover coefficients of and . Air infrastructure demonstrates a significant driving effect on inbound tourism in institutionally similar countries, while also showing notable competitive effects on inbound tourism in geographically neighboring countries. These findings provide valuable insights for deepening our understanding of the mechanisms underlying tourism-transport relationships in large-scale regions.

Keywords: transportation infrastructure; inbound tourism; multiple distance weight; spatial effect; the Belt and Road

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1. Study Area Overview

Based on the list of Belt and Road countries published by the Chinese government in and drawing on the "Six Major Economic Corridors" and relevant research findings, this study selects major Belt and Road countries as the research area, encompassing eight regions: the China-Mongolia-Russia Economic Corridor, Southeast Asia, South Asia, Central Asia, West Asia, North Africa, Central and Eastern Europe, and the Commonwealth of Independent States (Table 1). The Belt and Road region contains a massive tourism market. According to the China Tourism Academy, the population of Belt and Road countries accounts for over of the global total, while international tourism scale represents of the global total.

2. Data and Methods

2.1.1 Data Sources and Processing

Considering data availability and stability, the study period spans to . Variable data were sourced from the World Bank Database, the Heritage Foundation, the International Road Federation, UNESCO, and the UN Trade and Development Database. Missing data for individual years were supplemented using adjacent-year averages. Notably, Maldives lacks all road data and railway facilities for all years and was thus excluded as an invalid sample. It should be specially noted that due to severe missing data on cultural distance indices for multiple countries, only countries' data were used for the spatial panel econometric analysis based on cultural distance weights.

2.1.2 Variable Selection

Inbound tourism development is constrained not only by transport facilities but also influenced by tourism services, tourism resources, economic conditions, openness, and market size. This study employs inbound tourism as the dependent variable, transport infrastructure as the explanatory variable, and incorporates resource, economic, and market factors affecting inbound tourism. Table 2 presents the measurement indicators and data processing details.

Dependent variable: Inbound tourism ( ). Typically measured by total inbound tourist numbers, this indicator fails to exclude population size effects across countries. Following established practice, inbound tourism development is measured by the number of inbound tourists per hundred local residents.

Explanatory variable: Transport infrastructure. Representing national or regional accessibility and connectivity, transport infrastructure encompasses railways, roads, and aviation. To distinguish between transport infrastructure types and eliminate land area effects across countries, railway network density ($km \cdot km^{-2}$), road network density ($km \cdot km^{-2}$), and air transport capacity ( ) are selected as measurement indicators for railway, road, and aviation infrastructure, respectively.

Control variables: (1) Tourism resource level ( ). Tourism resources constitute a crucial factor for tourist travel. Following international convention, tourism resource level is measured by the ratio of world-class tourism resources to national territory area, with world-class resources including UNESCO World Heritage Sites and Biosphere Reserves. (2) Economic development level ( ). Economic development level influences tourism investment and indirectly determines tourism scale, measured by per capita GDP. (3) Openness level ( ). Openness facilitates tourism activities, measured by the Economic Freedom Index. (4) Tourism service level ( ). Tourism service quality determines visitor experience, measured by the ratio of service sector employment to total employment. (5) Market size ( ). Densely populated countries attract more tourists, measured by population density.

2.2 Research Methods

The spillover effects of transport infrastructure on tourism development represent a proposition of both academic and practical value, with geographical, economic, institutional, and cultural distances being more perceptible at the national scale than other scales. Integrating kernel density estimation, spatial autocorrelation, and spatial econometric models, this study constructs an analytical framework for examining the spatial effects of transport infrastructure on inbound tourism in Belt and Road countries under multiple distance weight matrices (Figure 1). First, kernel density estimation is used to analyze the spatial distribution characteristics of transport infrastructure. Second, spatial autocorrelation methods examine spatial association patterns in inbound tourism. Finally, spatial econometric models based on multiple distance weight matrices address spatial effects and heterogeneity of transport infrastructure impacts on inbound tourism under different distance conditions.

2.2.1 Kernel Density Estimation Kernel density estimation measures the spatial intensity of transport infrastructure and inbound tourism development, calculated as:

$$f(x) = \frac{1}{nh}\sum_{i=1}^{n} k\left(\frac{x - X_i}{h}\right)$$

where $f(x)$ is the kernel density function; n is the total number of study regions; h is the bandwidth; k is the kernel function; x is the measurement variable; and $X_1, X_2, \ldots, X_n$ are independent and identically distributed sample regions.

2.2.2 Global Moran' s I Index The global Moran' s I index is an important indicator for measuring spatial association of geographic elements, with values reflecting the degree of spatial clustering, calculated as:

$$\text{Moran's I} = \frac{n}{\sum_{i=1}^{n}\sum_{j=1}^{n} W_{ij}} \frac{\sum_{i=1}^{n}\sum_{j=1}^{n} W_{ij}(Y_i - \bar{Y})(Y_j - \bar{Y})}{\sum_{i=1}^{n}(Y_i - \bar{Y})^2}$$

where n is the total number of study regions; Y_i and Y_j are observed values for regions i and j; W_{ij} is the spatial weight matrix; and $\bar{Y}$ is the mean of all unit attribute values.

2.2.3 Spatial Panel Durbin Model (SPDM) The SPDM incorporates lagged terms for both dependent and independent variables. When model error terms are spatially correlated, it simplifies to a spatial panel error model; when strong correlations exist among variables and observations lack independence, it reduces to a spatial panel lag model. The general SPDM expression is:

$$Y_{it} = \rho\sum_{j=1}^{n} W_{ij}Y_{jt} + \beta X_{it} + \phi\sum_{j=1}^{n} W_{ij}X_{jt} + \mu_i + v_t + \varepsilon_{it}$$

where Y_{it} and X_{it} are the dependent and independent variable observations for region i in year t; Y_{jt} and X_{jt} are those for region j; W_{ij} is the spatial weight matrix; ρ is the spatial lag coefficient of the dependent variable; β is the vector of parameters to be estimated for independent variables; ϕ is the spatial regression coefficient for independent variables; μ_i and v_t represent spatial and temporal effects; and ε_{it} is the independently and identically distributed spatial error term.

Following LeSage and Pace and Wang Kun et al., spatial effects are decomposed using partial differential methods to avoid potential biases. The decomposition formulas are:

2.2.4 Spatial Weight Matrix Spatial weight matrices are constructed using multidimensional distances. Geographical distance, a traditional approach, uses inverse Euclidean distance. Economic distance uses the inverse of the absolute difference in average real GDP between two countries. Cultural distance follows established methods using Hofstede' s six-dimensional cultural indices. Institutional distance is constructed using the Kogut-Singh method based on the World Governance Indicators. Specific measurement indicators, calculation formulas, and data sources are presented in Table 3.

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3. Results

3.1 Spatial Distribution Patterns

3.1.1 Spatial Pattern of Transport Infrastructure Railway route data for Belt and Road countries were obtained from OpenStreetMap, highway data from Natural Earth, and airport location data from OurAirports, all for the year . Importing these into ArcGIS 10.5, kernel density estimates for railway networks, highway networks, and airport distributions were generated and spatially visualized (Figure 2).

The railway network kernel density distribution reveals a clear core-periphery structure in Belt and Road countries, with the Czech Republic, Poland, Hungary, and Slovakia in Central and Eastern Europe forming the core area. Secondary cores extend around the primary core toward surrounding areas and the northeast, reaching other Central and Eastern European countries and western Russia, with China and India also emerging as secondary railway network cores. Central Asia, West Asia, and North Africa show low railway network kernel density values. This stems from the fact that most railways in Central Asian countries were built during the Soviet era, leaving relatively backward facilities that cannot be maintained or upgraded due to corruption-related fund misappropriation. Additionally, Afghanistan' s ongoing civil war, the India-Pakistan conflict in Kashmir, conflicts in the South Caucasus, and Iran' s long-term economic and political isolation have prevented governments from prioritizing transport infrastructure development.

Compared to the railway network, the highway network exhibits a dual-core clustering pattern, with core areas primarily located at the eastern and western ends of the Belt and Road region. China, Vietnam, Laos, and Thailand in Southeast Asia form one contiguous high-density core area, while Poland, the Czech Republic, Slovakia, Lithuania, Slovenia, and Estonia in Central and Eastern Europe, along with Turkey and Jordan in West Asia, form another core area with highway network densities exceeding . Secondary cores extend from these primary cores into inland areas, such as China' s eastern coastal and northeastern regions and Russia' s Central Federal District. Northern Russia, with its vast sparsely populated areas and year-round frost, has minimal road infrastructure. Although India also has relatively high highway network density, construction quality is low, with many narrow and unpaved roads.

The airport distribution kernel density pattern (Figure 2c) shows that aviation infrastructure in Belt and Road countries exhibits multi-core distribution along southern coastal areas, characterized by high coastal density and low inland density. Spatially, aviation infrastructure forms several dense clusters, ranked by intensity as: the Indochinese Peninsula, the Black Sea coast, and China' s eastern coastal region. Each of these three major core clusters has over airports, representing agglomeration areas for the air passenger transport market. Secondary cores are located in parts of Southeast Asia, West Asia, and North Africa, with all other areas being low-density zones. Overall, aviation infrastructure shows distinct coastal-high and inland-low characteristics, with pronounced spatial imbalance—vast inland territories have few airports, mostly small-scale facilities in initial development stages.

In summary, transport infrastructure construction levels in Belt and Road countries show clear spatial matching with population density and economic conditions, and are also somewhat associated with topography. Densely populated areas generate substantial demand for well-developed transport infrastructure, while economically developed regions create favorable conditions for investment in railway, highway, and aviation infrastructure, as seen in China' s eastern coastal areas and Central and Eastern European countries. The relatively flat terrain in Eastern Europe and the economic development of most Eastern European countries contrast with the complex terrain in interior Asian regions such as western China, southeastern Tajikistan, northeastern Afghanistan, Mongolia, and eastern Russia, where transport infrastructure construction faces greater difficulties and higher costs. The flat terrain and small territorial size of South and Southeast Asian countries facilitate relatively complete transport infrastructure networks. As the Belt and Road Initiative progresses, participating countries are gradually connecting into an organic whole and systematically constructing highways, railways, and airports, progressively improving regional transport convenience and accessibility.

3.1.2 Spatial Pattern of Inbound Tourism Development The spatial distribution of inbound tourism in Belt and Road countries in (Figure 3) reveals significant "clustered" agglomeration, following a core-periphery diffusion pattern expanding from coastal to inland countries. Major agglomeration areas are distributed in Central and Eastern Europe and Southeast Asia, including Croatia, Bahrain, Hungary, the Czech Republic, Singapore, the Slovak Republic, and Maldives. Croatia lies along the Mediterranean coast, while Bahrain, Singapore, and Maldives are island nations. Hungary, the Czech Republic, and the Slovak Republic are renowned tourist destinations in Eastern Europe, all sharing characteristics of beautiful scenery and comfortable climates. Afghanistan, Palestine, Pakistan, and India have the smallest inbound tourism scales in Belt and Road countries due to political factors, health conditions, and other issues.

Overall, the core areas of inbound tourism align with the status of internationally renowned destinations, primarily clustering in small coastal countries and island nations along the Mediterranean Sea, Arabian Peninsula, Southeast Asia, and Central Asia, most of which are geographically adjacent.

To further analyze spatial association and clustering characteristics of inbound tourism development, Matlab 2014b was used to calculate global Moran' s I indices for inbound tourism in Belt and Road countries under four spatial weight matrices (Table 4). Under all four weight matrices, the global Moran' s I indices for inbound tourism generally pass significance tests, indicating that inbound tourism development in Belt and Road countries is not randomly distributed in space. Under geographical, economic, and institutional distance weight matrices, inbound tourism shows significant positive spatial correlation, demonstrating clear spatial clustering. Geographically proximate and economically/institutionally similar countries positively influence each other' s inbound tourism development. Under the cultural distance weight matrix, inbound tourism overall shows significant negative correlation, indicating that cultural differences are an important reason why tourists from different countries choose particular destinations, and that cultural homogeneity creates competitive effects among countries' inbound tourism development.

Examining interannual changes in Moran' s I indices, the index under cultural distance shifts from non-significant to significantly negative, reflecting a transition from random to high-low clustering distribution in inbound tourism spatial patterns. This suggests tourists increasingly focus on cultural heterogeneity when selecting destinations. Under economic and institutional distance weight matrices, Moran' s I indices show slight upward trends, while under geographical distance weight matrices, they exhibit slight downward trends. This indicates that spatial dependence on economic and institutional distances is gradually strengthening, while dependence on geographical distance is gradually weakening. Inbound tourism is increasingly overcoming geographical distance constraints and spilling over to more distant countries, while development gaps between adjacent regions are widening.

3.2 Spatial Spillover Effects

3.2.1 Overall Spatial Spillover Effects of Inbound Tourism The preceding analysis demonstrates clear spatial linkages in inbound tourism development. Therefore, spatial effects cannot be ignored when examining transport infrastructure impacts on inbound tourism, necessitating spatial econometric models for analysis. Under four spatial weight matrices, Lagrange Multiplier spatial lag tests, robust LM spatial lag tests, LM spatial error tests, and robust LM spatial error tests are all significant, indicating that transport infrastructure impacts on inbound tourism development exhibit spatial association in both error and lag forms. Consequently, the Spatial Panel Durbin Model is selected. The Hausman test statistic is significant, indicating the need for a fixed effects model. This study employs both spatial and temporal fixed effects.

Model estimation results (Table 5) show that the goodness-of-fit (R^2) and log-likelihood values of the double fixed effect SPDM are greater than those of the OLS model, further confirming the double fixed effect SPDM as optimal. Incorporating road network density, railway network density, and air transport capacity into a single estimation model to test their spatial effects on inbound tourism in Belt and Road countries yields the following results (Table 5): Under four distance weight matrices, the goodness-of-fit for transport infrastructure impact models on inbound tourism all exceed , indicating strong explanatory power. The spatial spillover coefficients for inbound tourism development under geographical, economic, institutional, and cultural distance matrices are , , , and , respectively. This means that for every increase in a country or region' s inbound tourism, neighboring countries' inbound tourism increases by , , , and through geographical, economic, institutional, and cultural distance spillovers, respectively. A shock to a country or region' s inbound tourism causes , , , and impacts on neighboring countries. These results indicate that geographical proximity generates the strongest positive spatial spillover effect on inbound tourism development in Belt and Road countries, with multi-country destination tourism in geographically close locations remaining international tourists' primary choice for cost reduction. In contrast, culturally similar countries exhibit competitive effects, as differentiated cultural landscapes constitute the main reason for tourists to cross borders.

3.2.2 Spatial Effects of Transport Infrastructure on Inbound Tourism
Estimating spatial effects with spatial econometric models can produce biases. Following LeSage and Pace, the partial differential method decomposes spatial effects to estimate marginal effects of transport infrastructure on inbound tourism in Belt and Road countries. Decomposition results are presented in Table 6.

Direct effects: Railway, road, and aviation infrastructure all demonstrate significant direct impacts on inbound tourism development in Belt and Road countries. Railway infrastructure passes significance tests under all four spatial distance weight matrices, improving regional accessibility through time-space compression effects and promoting local inbound tourism development. Road infrastructure passes significance tests under geographical, economic, and institutional distance weight matrices, indicating its important role in inbound tourism development. Aviation infrastructure passes significance tests under the geographical distance weight matrix, demonstrating that aviation infrastructure construction and improvement substantially reduce travel time and greatly enhance international tourism convenience.

Indirect effects: Railway infrastructure' s spatial spillover effects on inbound tourism are significant under institutional distance, indicating that similar institutional environments between countries better facilitate railway infrastructure spillovers to inbound tourism. Political stability, governance rules, and government organizational structures reduce spillover barriers for inbound tourism when jointly planning railway connectivity. Road infrastructure shows significantly positive indirect effects on inbound tourism under geographical and institutional distance weight matrices (spillover coefficients of and), indicating that road infrastructure promotes inbound tourism in geographically and institutionally proximate regions and more easily generates spillovers to institutionally similar countries. Aviation infrastructure demonstrates significantly positive spillover effects on inbound tourism in institutionally proximate and economically similar countries, while showing competitive effects on inbound tourism in geographically neighboring countries. Overall, road, railway, and aviation infrastructure all exhibit clear direct promotional effects on domestic inbound tourism. Railway infrastructure shows the largest and most stable direct promotional effect compared to road and aviation infrastructure. Railway and highway infrastructure more easily generate positive spatial spillover effects on inbound tourism in institutionally similar countries, while aviation infrastructure more easily generates positive spillovers in institutionally and economically similar countries.

3.2.3 Theoretical Framework of Spatial Effects Building on the empirical analysis, this study further develops a theoretical framework for the spatial effects of transport infrastructure on inbound tourism in Belt and Road countries (Figure 4). This framework clarifies both the direct impacts and spatial spillover effects of various transport infrastructure types on inbound tourism development, while also considering how different spatial relationships between countries create heterogeneity in spillover effects. Specifically, on one hand, highway, railway, and aviation infrastructure can promote local inbound tourism growth by improving transport accessibility, enhancing regional tourism efficiency, and facilitating spatial agglomeration of tourism factors. On the other hand, inbound tourism development exhibits clear spatial spillover effects, with transport infrastructure construction constituting an important pathway for generating such spillovers. Railway infrastructure generates spatial spillover effects on inbound tourism in institutionally similar countries, highway infrastructure generates spillovers on inbound tourism in geographically and institutionally similar countries, and aviation infrastructure demonstrates driving effects on inbound tourism in institutionally similar countries while showing competitive effects on geographically neighboring countries. This framework provides a theoretical foundation for subsequent empirical research on transport-tourism relationships.

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4. Discussion

Transport constitutes the foundation and prerequisite for tourist flows. Existing research has demonstrated that transport infrastructure construction plays an important role in tourism development. Since the Belt and Road Initiative' s proposal, substantial improvements in railway, highway, and aviation infrastructure have provided opportunities for rapid international tourism development, making it crucial to effectively leverage both direct impacts and spatial spillover effects of transport infrastructure on regional inbound tourism for healthy industry growth. Geographic phenomena and patterns all depend on distance for interpretation. Compared with existing research, this study' s innovation lies in recognizing that mutual influences among regions are more pronounced at large scales, and that existing research has identified complex path patterns of multiple distance factors in China' s inbound and outbound tourism flows. Consequently, this study introduces multiple distance weight matrices to estimate spatial effects of transport infrastructure on inbound tourism in Belt and Road countries and examines the conditional mechanisms underlying transport infrastructure-inbound tourism spatial relationships based on multiple distances, holding both practical and theoretical significance for deepening understanding of transport-tourism interrelationships.

Results show that transport infrastructure construction has clear positive driving effects on inbound tourism. However, insufficient investment, poor construction quality, and limited coverage in Central Asia, South Asia, West Asia, and North Africa weaken transport infrastructure' s promotional effects on inbound tourism. From a multiple distance perspective, geographical, institutional, and cultural distances constitute important reasons for spatial spillover effects of transport infrastructure on inbound tourism. Compared with related research, introducing multiple distance weight matrices clarifies development pathways of transport infrastructure impacts on inbound tourism under Belt and Road construction.

Specifically, (1) the railway network shows a clear core-periphery structure, radiating from Central and Eastern Europe toward the northeast; the highway network exhibits dual-core clustering at the eastern and western ends of Belt and Road countries; and aviation infrastructure shows multi-core distribution along southern coastal areas with distinct coastal-high and inland-low characteristics. (2) Inbound tourism development demonstrates clear clustered agglomeration, following a core-periphery diffusion pattern from coastal to inland countries. Regional inbound tourism development exhibits significant spatial association characteristics, with geographically proximate and economically/institutionally similar countries positively influencing each other, while cultural homogeneity creates competitive effects. (3) Geographically, economically, or institutionally similar countries and regions exhibit significant positive spatial spillover effects on inbound tourism development, with geographical proximity showing the strongest driving effect. Multi-country destination tourism in geographically close locations remains international tourists'primary cost-reduction choice. Culturally similar countries show competitive effects, as differentiated cultural landscapes motivate cross-border travel.

5. Conclusion

Focusing on Belt and Road countries and employing kernel density estimation, global spatial autocorrelation, and spatial panel econometric models, this study examines spatial association characteristics of transport infrastructure and inbound tourism development, explores transport infrastructure impacts on inbound tourism development and their spatial spillover effects, and clarifies the conditions and mechanisms of transport infrastructure spillover effects on inbound tourism. The main conclusions are:

(1) The railway network in Belt and Road countries exhibits a clear core-periphery structure, radiating from Central and Eastern Europe toward the northeast. The highway network shows dual-core clustering characteristics, with core areas primarily at the eastern and western ends of Belt and Road countries. Aviation infrastructure demonstrates multi-core distribution along southern coastal areas with distinct coastal-high and inland-low features.

(2) Inbound tourism development exhibits significant spatial spillover effects, with transport infrastructure construction constituting an important pathway. Railway infrastructure generates spatial spillover effects on inbound tourism in institutionally similar countries. Highway infrastructure produces positive spillovers on inbound tourism in geographically and institutionally similar countries. Aviation infrastructure demonstrates the most significant driving effects on inbound tourism in institutionally similar countries, while also showing competitive effects on inbound tourism in geographically neighboring countries.

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