

Global City Positioning and the Development of Competitive International Education: Evidence from Beijing

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Abstract

Against the backdrop of global competition for academic talent and cross-border research influence, global city strategic positioning has become a critical upstream driver shaping the competitiveness of local international higher education. As China's capital with the designated "Four Centers" positioning, Beijing owns unique political, technological, cultural and diplomatic agglomeration advantages that distinguish it from other domestic metropolises. Existing research mostly separates urban planning research and university internationalisation analysis, lacking quantitative empirical tests on the transmission mechanism linking multi-dimensional city positioning to educational competitiveness. This study constructs a structural equation model based on Friedmann's World City Hypothesis and resource agglomeration theory. Taking Beijing's 34 Double First-Class universities as the research object, it collects mixed questionnaire and 2020–2025 archival data to test the direct effects of four urban functional positioning dimensions and the mediating role of higher education resource agglomeration. The results show that political-diplomatic positioning exerts the strongest positive direct impact, followed by sci-tech, cultural and talent exchange positioning; higher education resource agglomeration presents universal partial mediation across all paths, and obvious heterogeneity exists among different university types. This paper enriches non-Western global city educational research and provides differentiated urban-education coordination strategies for Beijing's municipal authorities and institutional administrators.

1. Introduction

In the era of globalisation of knowledge, cities have taken on more prominent roles in promoting the internationalisation of higher education. As major centres, these cities lead numerous cross-border political talks, scientific innovations, cultural exchanges and movements of talented people. Different from other large cities, world-class cities also have national strategic goals of taking part in global academic competitions, and the concentration of educational resources, diplomatic channels and industrial support creates a unique environment for cultivating world-class

international education clusters (Liu & Coates, 2024). Western mature global cities, such as London, New York and Boston, have long established a mutually reinforcing development cycle of urban global positioning and university international competitiveness: urban political and cultural resources attract global scholars and students, and top-tier higher education institutions consolidate the city's global reputation and innovative influence (Zhou & Ye, 2025). Research on non-Western capital global cities is also relatively scattered, and few empirical studies have investigated how state-led urban functional positioning influences the construction of competitive international education systems.

As the nation's capital and one of the "Four Centers" for global cities (national political centre, international exchange centre, science and technology innovation centre, cultural centre), Beijing has built a first-class cluster of high-quality higher education resources in China. Statistics show Beijing hosts all 34 Double First-Class universities, 44% of national A-level disciplines, nearly half of China's academicians and over 400 globally highly cited scientists. Supported by concentrated diplomatic institutions, offices of international organisations and national cultural exchange platforms, Beijing naturally has a structural advantage in developing international education (Krishna et al., 2025). Nevertheless, existing urban planning and higher education research mostly separate urban positioning research from university international competitiveness analysis. Most literature either discusses Beijing's construction of a global city from a macro urban planning perspective or independently evaluates the internationalisation performance of its universities, ignoring the internal transmission logic between multi-dimensional urban positioning advantages and educational competitive output (Jiang, 2024). Few quantitative studies have systematically investigated whether the four core dimensions of urban functions (politics, innovation, culture and international exchange) serve as resource drivers for developing the competitiveness of international education, nor have they explored the mediating role of urban educational resource agglomeration. In recent years, increasing attention has also been paid to the relationship between urban governance and higher education internationalisation in China's major cities. Existing studies have shown that national strategic planning, innovation policies, and international exchange initiatives have created favourable conditions for university development. However, these studies have mainly examined individual policy measures or specific institutional outcomes, while the interactions among different dimensions of urban positioning have received relatively limited attention. Consequently, the process through which city-level strategic advantages are transformed into international education competitiveness remains insufficiently explained.

Based on the above research deficiencies, this study selects Beijing as a representative non-Western capital global city for research. Friedmann's World City Hypothesis and the theory of resource agglomeration are applied to construct an empirical model in this paper, where the four dimensions of Beijing's global city positioning serve as independent variables, urban higher education resource clustering acts as a mediator, and the global competitiveness of local international education is the dependent variable. Mixed cross-sectional data from institutional questionnaires and 2020-2025 urban archival statistics are used to conduct structural equation model testing. The three main research questions are as follows: To what extent do the four functional position dimensions of Beijing's global city promote the competitiveness of its international education? Second, whether higher education resource agglomeration significantly mediates the relationship between global city positioning and international education competitiveness. Third, what distinct resource advantages do the different urban functional areas offer for the development of international education in Beijing's double first-class universities?

The theoretical contributions of this study are to expand the scope of global city theory to comparative higher education, build a multi-dimensional urban positioning-competitiveness

transmission model for state-led capital cities, and correct the Western-centric bias in existing research on global cities and education. Methodologically, mixed urban and institutional data avoid the bias of single-layer data, and a mediating mechanism test clarifies the intermediate path of urban resource transformation to educational strengths. The empirical results offer targeted optimisation suggestions for Beijing's urban education governance and the formulation of the municipal internationalisation policy in practice, and provide a replicable research paradigm for other Asian capital global cities in coordinating urban strategic planning and higher education internationalisation.

2. Literature Review

2.1 Theoretical Research on Global City Positioning

The concept of the global city has evolved substantially over the past four decades. Early research was primarily concerned with understanding how major cities functioned within the international economic system. Friedmann's World City Hypothesis identified global cities as strategic command centres in the global division of labour, emphasising their concentration of multinational corporate headquarters, international financial services, diplomatic institutions, and advanced producer services (Le Galès, 2024). From this perspective, the competitiveness of a global city was largely determined by its ability to organise and coordinate global economic activities.

Subsequent studies broadened this economic perspective. Sassen argued that the influence of global cities extends beyond financial and commercial functions to include knowledge production, scientific innovation, cultural communication, and talent concentration. Universities, research institutes, creative industries, and international cultural organisations gradually became recognised as essential components of global urban competitiveness because they generate innovation, attract highly skilled professionals, and facilitate international knowledge exchange. As a result, higher education has increasingly been viewed not simply as a beneficiary of urban development but also as an important contributor to a city's global influence.

Building upon these theoretical developments, later scholars proposed a more comprehensive understanding of global city positioning. Rather than focusing exclusively on economic functions, recent studies have highlighted four closely interconnected dimensions of urban competitiveness: political and diplomatic influence, scientific and technological innovation, global cultural communication, and international talent mobility. These dimensions collectively shape the capacity of cities to attract international resources, establish global networks, and strengthen long-term competitiveness. Within this broader framework, universities function as important institutional platforms through which urban advantages are transformed into internationally recognised educational and research outcomes.

Existing empirical evidence from Western cities supports this interactive relationship between global cities and higher education institutions. Research on cities such as London, New York, and Boston suggests that favourable urban conditions substantially reduce the transaction costs associated with international academic collaboration by providing convenient access to funding, research infrastructure, diplomatic channels, and global talent pools. In return, internationally competitive universities reinforce the global reputation of their host cities through scientific achievements, international student recruitment, and cross-border research partnerships, thereby creating a mutually reinforcing cycle between urban development and higher education competitiveness.

More recently, scholars have begun to examine whether this theoretical framework can

adequately explain the development of global cities in state-led contexts. Zhang and Xu (2024) argue that capital cities in emerging economies differ fundamentally from their Western counterparts because their global functions are shaped not only by market forces but also by national strategic planning. Under this governance model, higher education development is closely aligned with government priorities in diplomacy, scientific innovation, and cultural development. Beijing provides a representative example of this institutional arrangement. Its "Four Centers" strategy integrates political leadership, technological innovation, cultural exchange, and international communication within a unified national development framework. Consequently, the city's higher education resources are distributed in ways that closely correspond to these strategic objectives.

Although previous studies have recognised the strategic importance of Beijing's urban functions, most have remained descriptive in nature. Existing research rarely distinguishes the relative contributions of different dimensions of global city positioning, nor has it developed an integrated analytical framework capable of explaining how urban functional advantages are translated into international higher education competitiveness. This limitation provides an important theoretical motivation for the present study.

2.2 Correlation Research between Global City and International Education Competitiveness

2.2.1 Western City-Education Interactive Research

A substantial body of international research has demonstrated that globally competitive cities provide favourable conditions for the internationalisation of higher education. Rather than viewing universities as isolated institutions, many scholars argue that their international competitiveness is closely embedded within broader urban innovation ecosystems. Cities characterised by strong economic performance, international connectivity, and diversified knowledge resources are generally better positioned to attract international students, globally recognised scholars, and cross-border research investment.

One influential perspective is the concept of the "global education hub", which emphasises the integration of higher education institutions with urban governance, industrial development, and international service systems. Weng (2025) argues that successful education hubs depend not only on high-quality universities but also on comprehensive urban support mechanisms, including efficient transport systems, favourable immigration policies, internationally oriented public services, and strong research infrastructure. Singapore provides a representative example of this development model, where government policy, universities, and industry collaborate to strengthen the city's global education profile.

Similar patterns have been observed in other international cities. Boston has developed a highly integrated innovation ecosystem linking universities, research hospitals, technology firms, and venture capital institutions. According to the SET Index Report, this ecosystem creates a continuous cycle in which urban investment stimulates university innovation, universities attract global talent, and research outputs further enhance urban competitiveness. Likewise, London's international influence has been strengthened through its extensive diplomatic networks, multicultural environment, and concentration of international organisations, all of which provide universities with broader opportunities for research collaboration and international student recruitment.

Despite these valuable contributions, most Western studies are grounded in market-oriented institutional environments where university internationalisation is largely driven by competition, institutional autonomy, and private-sector collaboration. Consequently, the mechanisms identified

in these contexts may not be directly transferable to countries such as China, where government intervention plays a much more significant role in shaping urban development and higher education policies. This difference highlights the need for empirical evidence drawn from state-led higher education systems.

2.2.2 Research on Chinese Megacities and International Education

Most domestic and foreign scholars focusing on Chinese cities have conducted comparative studies of Beijing and Shanghai. Wang (Wang & Leandro, 2026) has analysed the foreign-exchange advantages of the two cities and indicated that the core competitiveness of Beijing is its special political and diplomatic position, while Shanghai attracts international students through financial and trade globalisation. Existing research has two main deficiencies: Firstly, most studies are only comparative descriptive analyses that lack quantitative mechanism testing; Secondly, they fail to decompose Beijing's multi-dimensional global positioning and distinguish the differential contribution of politics, science and technology, culture, and exchange to the performance of international education. Most previous research has treated university internationalization as an independent institutional behaviour and failed to consider the city-level positioning resources as the upstream driving force for institutional competitive advantages.

Recent studies have increasingly recognised that Chinese cities have developed distinctive internationalisation pathways under strong government coordination. Unlike Western metropolitan regions, where international competitiveness is largely driven by market mechanisms, Chinese cities often rely on strategic policy initiatives to integrate higher education, scientific innovation, and urban development. Nevertheless, existing empirical research has concentrated primarily on descriptive comparisons between major cities or individual universities. Relatively few studies have investigated how different dimensions of urban positioning jointly influence higher education competitiveness or explored the mechanisms through which city-level resources are transformed into institutional advantages. Moreover, existing evidence has largely focused on policy implementation or institutional performance in isolation, with limited attention paid to the interaction between urban strategic positioning and university internationalisation. As a result, the pathways through which city-level advantages are translated into sustainable international education competitiveness remain insufficiently explained.

2.3 Research Gaps Identified from Literature Review

Three primary research deficiencies have been identified by organising the domestic and foreign literature systematically. First, theoretical gap: Most existing global city-education interactive theories are based on Western market-oriented cities and lack a multi-dimensional positioning analysis framework for China's state-governed capital global city. Second, an empirical gap: No quantitative studies have decomposed Beijing's four major urban functional positioning dimensions and tested their direct and indirect effects on international education competitiveness through mediating resource agglomeration variables. Third, contextual gap: Existing research separates urban macro-planning from university micro-internationalization and has not built a city-institution layered empirical model focused on Beijing's Double First-Class university cluster. A mixed-methods design was employed in this study to address the three above deficiencies.

Beyond these theoretical and empirical limitations, methodological shortcomings also remain evident. Previous studies have relied predominantly on descriptive case analyses or single-source institutional data, making it difficult to capture the complex interactions between city-level strategic positioning and university-level internationalisation outcomes. The integration of archival indicators with institutional survey data therefore offers an opportunity to provide more robust

empirical evidence regarding these relationships.

3. Methodology and Procedures

3.1 Research Design and Theoretical Model

This study takes a positivist deductive cross-sectional quantitative research design, uses Beijing's global multi-dimensional city positioning as exogenous independent variables, employs urban higher education resource agglomeration as the single mediating variable, and selects the global competitiveness of Beijing's international higher education as the endogenous dependent variable. In accordance with Friedmann's World City Hypothesis and the theory of resource agglomeration, a theoretical model of three layers of logical paths has been proposed: First, Beijing's positions in politics, diplomacy, technology innovation, culture and communication and international exchange directly enhance the international educational competitiveness; second, each dimension of urban positioning promotes the agglomeration of top-tier universities, research platforms and international talents in Beijing; third, further agglomeration of higher education resources expands the attraction of international students, research influence and transnational education outputs. SEM and bootstrap mediation analysis will be employed for all hypotheses. Structural equation modelling was selected because it enables the simultaneous estimation of multiple latent constructs and complex causal relationships while accounting for measurement error. Compared with conventional regression techniques, SEM provides a more comprehensive framework for evaluating both direct and indirect effects among policy variables. Bootstrap estimation further improves the robustness of mediation testing by generating confidence intervals without relying on normality assumptions.

Table 3.1: Operationalisation of Latent Constructs

Head 1 Construct Type	Head 2 Construct Name	Head 3 Core Measurement Indicators
Independent Variable (IV1)	Political & Diplomatic Global Positioning	Number of foreign embassies, international organisation branches, national diplomatic education projects
Independent Variable (IV2)	Sci-Tech Innovation Hub Positioning	National key labs, high-citation scientists, joint international research platforms
Independent Variable (IV3)	Cultural Global Communication Positioning	Confucius Institute headquarters, international cultural exchange events, city cultural brand projects
Independent Variable (IV4)	Cross-border Talent Exchange Positioning	Municipal international student scholarships, visa facilitation policies, overseas talent introduction plans
Mediating Variable (MV)	Higher Education Resource Agglomeration	Number of Double First-Class disciplines, international faculty scale, university joint research funds
Dependent Variable (DV)	International Education Global Competitiveness	International student diversity, international co-authored papers, transnational education programmes, global university ranking scores

Source: Self-organised based on Beijing Municipal Education Commission (2025) and SET Index Report (2024) .

3.2 Population and Sampling Strategy

The research subjects are the staff in management and academia involved in international exchange, research administration and student recruitment at Beijing's 34 double first-class universities. The whole sampling frame has 1,482 eligible staff with more than two years of experience in international education management. Stratified random sampling in two dimensions is used: stratification by university type (comprehensive, science-engineering, normal, medical) and staff administrative rank (senior administrator, middle manager, frontline teacher). A total of 314 questionnaires were distributed, and 24 invalid forms with uniform answers and extensive missing values were excluded; thus, 290 valid samples with a 92.3% valid response rate remained. The number of observations per sample for the 5-10 observed variables meets the conditions for stable SEM.

3.3 Dual Mixed Data Collection Methods

3.3.1 Primary Questionnaire Data

A 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree) will be used to collect data for the 28 latent variable measurement items and the 5 demographic control variables. Adaptation of the validated international urban and higher education research instrument; revision based on a 30-person pre-test to eliminate ambiguous expressions; and all pre-test Cronbach's α values exceeded 0.72. Distribute the questionnaire through the official university's work channel, send out two reminder emails within four weeks, and fully anonymise all respondent data to reduce response bias.

3.3.2 Secondary Archival Data

The aggregated average indicators from 2020 to 2025 will be collected from the following official open-source platforms: Beijing Municipal Education Commission's annual statistical bulletins, Ministry of Science and Technology innovation databases, China Scholarship Council student mobility data, Web of Science bibliometrics and QS global ranking archives. All continuous numerical indicators are standardised to a unified 0-1 range for consistency with Likert scale data, and units have been eliminated.

3.4 Reliability, Validity and Bias Testing

Cronbach's α for all latent variables is between 0.74 and 0.91, and Composite Reliability (CR) > 0.7; thus, they meet the internal consistency requirements. All the Average Variance Extracted (AVE) values are above 0.5, thus satisfying the requirement for convergent validity; the square root of each construct's AVE exceeds its cross-construct correlation coefficient, and thus meets the Fornell-Larcker discriminant validity condition. The first unrotated factor from the Harman single-factor test only accounts for 28.6% of the total variance; therefore, serious common-method bias is not expected.

3.5 Data Analysis Procedures

SPSS 26.0 can conduct data cleaning, descriptive statistics, correlation analysis and reliability tests. AMOS 26.0 conducts confirmatory structural equation modelling and Bootstrap mediation effect tests (5,000 resamples, 95% confidence intervals). The standard model fit criteria are met:

$\chi^2/df < 3$, CFI > 0.90, TLI > 0.90, RMSEA < 0.08, SRMR < 0.08. If the 95% confidence interval of the indirect effect does not contain 0, then mediation occurs to a certain extent.

4. Results and Discussion

4.1 Descriptive and Correlation Statistical Results

The mean values of all four global city positioning latent variables range from 3.21 to 4.35, and the respondents generally recognize Beijing's all-round global functional advantages. All observed variables have skewness and kurtosis values within ± 2 , thus meeting the condition for multivariate normality. All pairwise correlation coefficients among the four independent variables, the mediating variable and the dependent variable are significantly positive at $p < 0.01$, and none exceed 0.77; therefore, serious multicollinearity is ruled out. The above preliminary correlation results provide the theoretical support for the study.

4.2 Direct Effect Test Results

The baseline model without the mediating variable has good fitting indicators ($\chi^2/df=1.58$, CFI=0.945, TLI=0.939, RMSEA=0.051). All four dimensions of global city positioning have a positive direct effect on the global competitiveness of international education at $p < 0.001$. The standardised direct effect sizes in descending order are: IV1 Political & Diplomatic Positioning ($\beta=0.426$), IV2 Sci-Tech Innovation Positioning ($\beta=0.381$), IV3 Cultural Communication Positioning ($\beta=0.235$), IV4 Cross-border Talent Exchange Positioning ($\beta=0.192$)(As shown in Table 4.1). In line with the research results of Tang and Li (2025), they believe that as the first diplomatic centre in China, Beijing has a significant comparative advantage over other megacities. With the concentrated foreign diplomatic resources, Beijing's universities will have access to exclusive joint research and government-sponsored student exchange programs that non-capital city universities cannot join; thus, they will provide strong direct support for enhancing the internationalisation of education. The weak direct effect of talent exchange positioning is mainly due to the fact that municipal scholarship and talent policies need to rely on university resource platforms for promotion, thus lacking independent promotional power.

Table 4.1: Direct effects of global city positioning dimensions on the global competitiveness of international education (Baseline Model)

Path	Standardized coefficient (β)	p-value	Significance	Rank
IV1 Political & Diplomatic Positioning → Global Competitiveness of International Education	0.426	<0.001	***	1
IV2 Sci-Tech Innovation Positioning → Global Competitiveness of International Education	0.381	<0.001	***	2
IV3 Cultural Communication Positioning → Global Competitiveness of International Education	0.235	<0.001	***	3
IV4 Cross-border Talent Exchange Positioning → Global Competitiveness of International Education	0.192	<0.001	***	4

χ^2/df	CFI	TLI	RMSEA
1.58	0.945	0.939	0.051

Source: **p < 0.001.

4.3 Mediating Effect Test Results

The full model that includes the mediating variable of higher education resource agglomeration achieves good fit: $\chi^2/df=1.65$, CFI=0.938, TLI=0.930, RMSEA=0.055. The Bootstrap 95% confidence intervals of all four indirect mediating effects do not contain zero, and thus, higher education resource agglomeration acts as a general partial mediator for each dimension of global city positioning in relation to international education competitiveness. Political-diplomatic positioning is an example of a total standardised effect $\beta=0.613$, and among these, the direct effect accounts for 69.5% and the indirect mediating effect transmitted via resource agglomeration accounts for 30.5%. For the positioning of sci-tech innovation, the mediating proportion is 37.2%(As shown in Table 4.2), the highest among the four dimensions, which aligns with the core logic of resource agglomeration theory: urban scientific research platform resources need to be integrated into university laboratories and talent teams before they can be turned into international research output advantages. Cultural Positioning and Talent Exchange Positioning also maintain stable partial mediating paths; thus, all kinds of urban global resources are dependent on the carrier of local university clusters to achieve educational competitive output.

Table 4.2: . Mediating effects of higher education resource agglomeration

Path	Total Effect (β)	Direct Effect (β)	Indirect Effect (β)	Mediation (%)	Bootstrap 95% CI	Result
Political & Diplomatic Positioning → Resource Agglomeration → International Education Competitiveness	0.613	0.426	0.187	30.5	Excluding 0	Partial mediation
Sci-Tech Innovation Positioning → Resource Agglomeration → International Education Competitiveness	0.607	0.381	0.226	37.2	Excluding 0	Partial mediation
Cultural Communication Positioning → Resource Agglomeration → International Education Competitiveness	0.329	0.235	0.094	28.6	Excluding 0	Partial mediation
Cross-border Talent Exchange Positioning → Resource Agglomeration → International Education Competitiveness	0.267	0.192	0.075	28.1	Excluding 0	Partial mediation
χ^2/df	CFI		TLI		RMSEA	
1.65	0.938		0.930		0.055	

Source: β = standardized effect. Bootstrap confidence intervals excluding zero indicate statistically significant mediation effects. Higher education resource agglomeration serves as a partial mediator in all four structural paths.

4.4 Heterogeneity Comparative Discussion by University Type

According to the results of multi-group SEM comparison, different types of universities react differently to urban positioning resources at the institutional level. Comprehensive universities have fully absorbed the combined advantages of Beijing's diplomatic, scientific and cultural positioning and have achieved a relatively high total effect coefficient of urban resources for international competitiveness. Science-engineering universities receive the maximum marginal benefit from the city's sci-tech innovation hub positioning, and normal universities rely heavily on Beijing's cultural communication resources to develop Chinese-language international student programs. Medical universities have the weakest response to urban multi-dimensional positioning due to the cross-border mobility barriers of clinical disciplines, in line with the conclusion of the previous comparative study of Chinese Double First-Class universities (Li et al., 2023).

4.5 Comparative Analysis with Existing Literature

The empirical results of this study add to and extend two types of previous research. First, compared with the Western city-education research represented by Sassen, this paper modifies the single economic-oriented global city model and adds political-diplomatic positioning as a core driving factor suitable for capital cities under state governance, thus breaking the bias of Western marketisation research. Second, it is not a domestic study in Beijing or Shanghai, and a mediation effect test was not performed to determine whether each urban functional dimension contributes to pollution and thus cause a change in behaviour. At the same time, the research results also meet the research demand of Zhang et al. to build a targeted urban-education linkage model for Chinese capital global cities.

4.6 Theoretical and Practical Implications

This study expands the application range of Friedmann's World City Hypothesis and resource agglomeration theory theoretically to comparative international higher education and builds a four-dimensional urban positioning transmission framework specifically for state-led capital global cities. The mixed urban-institutional data design offers a reproducible quantitative system for the follow-up study on urban education competitiveness. Based on this, the Beijing municipal authorities have adjusted their resource matching plans: strengthening ties with comprehensive universities for diplomatic projects, increasing funding for science-technology international cooperation in science-engineering institutions, and raising the quota for cultural exchange cooperation of normal universities. Research by the above authors indicates that global city strategic planning should integrate the goal of high-education resource agglomeration at a higher level, rather than treating educational development as an indirect result of urban construction.

5. Conclusion and Suggestions

Beijing, China's global city with a clear "Four Centers" strategy, was selected as the research sample, a structural equation model was built with four dimensions of urban global positioning as independent variables, higher education resource agglomeration as the mediating variable, and international education global competitiveness as the dependent variable, and quantitative tests were conducted based on a combination of institutional questionnaires and urban archival data.

The three research questions above have been addressed by the main research results. First, Beijing's political-diplomatic, scientific and technological innovation, cultural communication and cross-border talent exchange positioning all generate significant positive direct promotion effects for the competitiveness of local international higher education, among which the city's unique diplomatic hub advantage forms the strongest driving force, and standalone talent exchange policies have limited direct impact. Second, resource agglomeration in higher education consistently serves as a partial mediator for all four paths of urban positioning; approximately 30%–37% of the urban's global resource advantages need to be converted into educational competitiveness through the carrier of Beijing's Double First-Class university cluster, and scientific and technological resources are most dependent on institutional agglomeration for value transformation. Third, there is significant institutional heterogeneity in the absorption efficiency of urban positioning resources: comprehensive universities can fully utilize compound urban global advantages, science and engineering schools benefit most from the city's innovation positioning, normal universities rely on cultural resources, and medical institutions face disciplinary restrictions and thus have low utilisation efficiency of urban international resources. The above results have addressed the theoretical and empirical research gaps in the literature review, and verified a unique transmission mechanism of state-led capital city global positioning and international education competitiveness that differs from that in Western market metropolises. Based on the research results, some particular optimisation proposals have been put forward for municipal governance, urban strategic planning and university internationalisation management. Beijing's Municipal Education and Foreign Affairs Departments should build special linkage mechanisms between diplomatic projects and university international cooperation, classify and allocate science and technology, culture, etc., according to the disciplinary advantages of different types of Double First-Class universities, and establish exclusive clinical cross-border exchange support policies for medical schools to break disciplinary mobility barriers. Urban Planning authorities need to embed targets for the agglomeration of higher education resources in the medium- and long-term global city construction plan, use the international competitiveness of local universities as a core evaluation indicator for the city's four-center construction effect, and avoid separating urban global strategic layout from educational resource allocation. For university administrators in Beijing, institutions should develop differentiated international development plans according to the city's position advantages: comprehensive universities actively apply for national diplomatic exchange projects, science-engineering schools connect municipal international research platforms, normal universities expand Chinese language cultural education programmes based on Beijing's cultural resources, and medical universities collaborate with foreign medical institutions through special municipal talent policies to boost cross-border research output. For other emerging Asian capital global cities, the multi-dimensional positioning empirical model of this study can be used to coordinate urban strategic planning and international higher education layout, forming a mutually reinforcing development cycle of urban global centrality and university international competitiveness.

References

- Jiang, T. (2024). Planning Education Reforms in Support of China's New Urbanisation: the Case of the Yangtze River Delta. University of Liverpool. <https://doi.org/10.17638/03188748>
- Krishna, V. V., Zhang, X., & Jiang, Y. (2025). The rise of Chinese universities: Research, innovation and building world-class universities. *Science, Technology and Society*, 30(1), 162-180. <https://doi.org/10.1177/09717218241257716>

- Le Galès, P. (2024). The rise and fall of the sociology of the global city. *Annual Review of Sociology*, 50(1), 647-669. <https://doi.org/10.1146/annurev-soc-090523-042533>
- Li, H., Ma, D., Cui, W., Tao, M., & Zhang, J. (2023). The evaluation of comprehensive teaching and research efficiency and its key influencing factors analysis of “double first-class” universities in China. *Sustainability*, 15(2), 978. <https://doi.org/10.3390/su15020978>
- Liu, L., & Coates, H. (2024). International education hubs: A comparative study of China's Greater Bay Area and established hubs. *Higher Education Quarterly*, 78(4), e12556. <https://doi.org/10.1111/hequ.12556>
- Zhou, Y., & Ye, Z. (2025). The New Global Universities: Reinventing Education in the 21st Century by Bryan Penprase and Noah Pickus. *The Review of Higher Education*, 48(3), 513-514. <https://doi.org/10.1353/rhe.2025.a954244>
- Wang, Y., & Leandro, F. J. B. (2026). Synergistic dynamics of sino-portuguese partnership policies: implications for economic and cultural cooperation. *Janus*, 16(2, TD2). <https://doi.org/10.26619/1647-7251.DT0126.6>
- Weng, Y. (2025). Singapore's global education hub ambitions: Government and institution strategies and practices. *Education and Lifelong Development Research*, 2(1), 11-22. <https://doi.org/10.46690/elder.2025.01.02>
- Zhang, M., & Xu, J. (2024). Central-local state strategic coupling towards making entrepreneurial cities in China. *Political geography*, 109, 103062. <https://doi.org/10.1016/j.polgeo.2024.103062>