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The varying effects of accessing high-speed rail system on China's county development: a geographically weighted panel regression analysis

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The varying effects of accessing high-speed rail system on China's county development: a geographically weighted panel regression analysis

WHEN: April 5, 3:45 pm WHERE: Online via Zoom

Danlin Yu
Montclair State University

Dr. Danlin Yu graduates from the geography program in the University of Wisconsin, Milwaukee. Dr. Yu is a geographic information scientist, spatial data scientist, locational strategist, quantitative urban geographer and environmental sustainability modeler by training. Dr. Yu has been teaching in MSU since 2005. Dr. Yu's current research interests are in the fields of urban and regional development, advanced spatiotemporal data analysis, and geographical information science.

The construction of high-speed rail in China was initiated to answer increasing demand for fast and convenient transportation systems connecting large economic centers. It is commonly understood that access to HSR will have significant impact on economic development. It is, however, also quite possible that the benefits to economic development brought by HSR will have a diminishing marginal effect. With data of HSR stations distribution and a set of panel data of socioeconomic information at county-level from 2008 – 2015 in China, this study applies advanced spatiotemporal data analysis techniques to investigate the impact of HSR. Our results suggest that on average the presence of an HSR station suggests about 2.7% increase of that county's per capita GDP. The geographically weighted panel regression suggests that in places where HSR is sparsely distributed, the relationship between HSR accessibility and GDP per capita is significant and positive. In places where HSR is densely distributed, the relationship is less apparent. We hope the results will offer significant insights of the relationships between infrastructure construction and county economic development in both China and beyond.

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