

The Impact of High-speed Rail Connectivity on Regional Economic Tail Risks

Jingwen Qin*

School of Economics and Management, China University of Petroleum (East China), Qingdao, China

Email address:

qjwbbx@163.com (Jingwen Qin)

*Corresponding author

Abstract

The development of high-speed rail (HSR) networks has accelerated the cross-regional flow of labor and other factors, exerting a significant impact on regional economic tail risks. Using a sample of 283 prefecture-level cities in China from 2003 to 2019, this paper constructs a city-pair panel dataset and employs a time-varying difference-in-differences (DID) approach to empirically examine the impact of HSR connectivity on inter-city economic tail risks and its underlying mechanisms. The findings show that HSR connectivity significantly reduces the level of economic tail risks between cities. This result remains robust after addressing endogeneity concerns through instrumental variable regression and PSM-DID, as well as conducting a series of robustness checks including alternative dependent variables and excluding the influence of other transportation infrastructure. Mechanism analysis reveals that HSR connectivity mainly reduces regional economic tail risks by promoting labor mobility, knowledge flows, capital flows, and widening industrial structure differences. Further analysis indicates that the mitigating effect of HSR connectivity on economic tail risks is more pronounced among city pairs with similar industrial structures, smaller market segmentation gaps, larger fiscal expenditures, and between peripheral cities. Therefore, while advancing HSR connectivity, it is essential to fully leverage its risk diversification function, rationally plan HSR networks, and effectively strengthen the prevention and control of regional economic tail risks.

Keywords

High-speed Rail Connectivity, Regional Economic Tail Risk, Factor Flows, Industrial Structure Difference, Time-varying DID