Travel Costs and Urban Specialization Patterns: Evidence from China's High Speed Railway System

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PII: S0094-1190(16)30056-0
DOI: 10.1016/j.jue.2016.11.002
Reference: YJUEC 3055

To appear in: *Journal of Urban Economics*

Received date: 14 November 2014
Revised date: 21 October 2016
Accepted date: 10 November 2016

Please cite this article as: Yatang Lin, Travel Costs and Urban Specialization Patterns: Evidence from China's High Speed Railway System, *Journal of Urban Economics* (2016), doi: 10.1016/j.jue.2016.11.002

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Abstract

How does intercity passenger transportation shape urban employment and specialization patterns? To shed light on this question I study China's High Speed Railway (HSR), an unprecedentedly large-scale network that connected 81 cities from 2003 to 2014 with trains running at speeds over 200 km/h. Using a difference-in-differences approach, I find that an HSR connection increases city-wide passenger flows by 10% and employment by 7%. To deal with the issues of endogenous railway placement and simultaneous public investments accompanying HSR connection, I examine the impact of a city's market access changes purely driven by the HSR connection of other cities. The estimates suggest that HSR-induced expansion in market access increases urban employment with an elasticity between 2 and 2.5. Further evidence on sectoral employment suggests that industries with a higher reliance on nonroutine cognitive skills benefit more from HSR-induced market access to other cities.

Keywords: Transportation infrastructure, High Speed Railway, Urban Employment and Specialization

1. Introduction

Transportation costs play an important role in the location, agglomeration and evolution of economic activities. Yet, despite abundant research on the relationship between the cost of goods transportation and trade patterns, relatively little attention has been paid to the costs of passenger travel and their implications for labour markets. Reducing the cost of travel between cities not only removes obstacles to migration (Morten and Oliveira 2013) [39], but also reduces the cost of face-to-face meeting across cities and allows remote sourcing of jobs. As airplanes or speedy trains make frequent day trips more feasible, firms may be more willing to locate their headquarters or R&D centres in centrally-located cities with large pools of talented employees, who can exert effective control over production plants in smaller cities with much lower urban costs. How significant are the benefits of infrastructure projects that dramatically increase the speed of intercity travelling, and how are these benefits distributed across sectors?

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