Discussion:
The Welfare Effects of Passenger Transportation Infrastructure: Evidence from China's HSR Network

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This paper

• The authors develop a spatial framework for evaluating the welfare impacts of passenger transportation infrastructure.
• They apply the framework to study China's High Speed Railway (HSR) network.
• Data: union pay credit/debt data in China.
• Results:
  • Reduced form: a direct HSR connection between two city leads to a 35% increase in the number of bilateral trips and a 28% increase in bilateral card transaction value.
  • Structural estimation: removing the entire HSR network would lead to a 4.5% reduction in welfare gains from out-of-city consumption and trips.
Contributions

• Important questions:
  • impact of transportation infrastructure projects

• Novel use of consumption data
  • spatial dimension of consumption
Interpretation

• How to construct bilateral passenger flows and transaction values?
  • Physical card transaction vs online shopping?
  • Supplemental card? Students in another city?
  • How to define the location if I transfer money to alipay/wechat pay?
  • How to define the location if I pay travel agent?
Interpretation

• Type of traveler:

• What about business travelers?
  • The utility function is quite different for business traveler so that the welfare might be difficult to interpret

• What about group travelers with travel agent?
  • The expansion of HSR increase the supply of travel package in the city pair.
  • The framework might be different
Identification

• Reduce form results need more analysis

• Need some form of placebo test

• Other transportation expansions at the same/similar time:
  • Airline
  • Highway
  • Are these expansion somewhat correlated for the city pairs?
Data: consumption

• Data: universe of credit and debit card transactions settled through the UnionPay network.

• Is it representative for all consumption? What about consumption through
  • Cash
  • Visa/master card
  • Alipay/wechat pay

• How does these issues bias the results? What assumptions to make?

• Section 4.1 about data should have much more discussion about these issues
Data: travel cost

• Limited

• Air travel data is available for a small subsample

• What about discount from different airlines or ctrip?
Conceptual framework

• Inner nest: Substitution between transportation modes

• Assumption:
  • Travel cost for non-air mode is the minimum travel cost among HSR, traditional trains, and highway
  • the other modes of transportation (including HSR, traditional train, and road) to be perfect substitutes.

• This is a strong assumption

• Given the study is about the impact of HSR expansion, the estimation might capture the impact of all non-air mode expansion
Robustness

- Substitution between transportation modes
  - What about intercity bus given the highway expansion?

- Transaction level data: Exclude 1% extreme high transaction value
Thank you