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 ctrips?

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