

Discussion of Policies for Better Structuring Cities

Nathaniel Baum-Snow

University of Toronto, Rotman School of Management

Important Policy Questions Surrounding Cities & Infrastructure

- Land Use
 - Formalization of land ownership and property rights
 - Institutions needed to enforce ownership contracts
 - Zoning (residential, industrial, commercial) and reservation to use for transport
- Urban Infrastructure
 - Balancing priorities for transport, piped water, electricity, sewage
 - Welfare benefits from reducing commuting and internal trade costs
 - Challenges associated with the management of infrastructure
 - Pricing of roads & petrol, operation of transit systems
- Transport investments that connect cities
 - Welfare consequences of expanding market access

Broad Policy Messages

- Allen, Arkolakis & Li
 - Spillovers in cities matter for welfare and imply a role for local governments
 - Zoning and land use policy can have large influences on welfare
 - Specific welfare implications for a particular location in a city depend on calibration to commuting flows or the population & employment spatial distributions, zoning and transport network of that city
- Jedwab & Storeygard
 - Cities better served by roads experience more rapid population growth
 - This reflects some combination of urbanization and reallocation across cities
 - Lots of heterogeneity in these effects

Comments on Allen, Arkolakis & Li

- Very sophisticated and useful framework set up to think about how to improve efficiency in the operation of cities through zoning policy
 - Cities are efficient except for commuting (congestion) and production externalities
- Can characterize equilibria with a convenient functional form
- Can use the model to analyze welfare consequences of local zoning innovations
- However, important assumptions go into the quantified version of this model with no underlying heterogeneity I (Is there such thing as a General Theory for cities?):
 - Different products produced at each location
 - CES Preferences, C-D production
 - Independent Fréchet draws for utility shifters associated with commutes

Practical Challenges in Using The Model

- No underlying consumer-worker heterogeneity, especially in land ownership
 - No sorting across space
- With the right institutions for redistribution in place, all can gain from improving land use and zoning, but
 - Common problem that when improve efficiency of land markets, only the few landowners get the rents
 - Distributional consequences result that often make renters worse off
- Political challenges of implementing changes in zoning policy
- Adjustment costs and destruction/repurposing of fixed capital stocks can be costly enough to outweigh gains
 - Paper has little to say about the housing/structure capital production function – tall buildings seems to be an important element of reality here for Chicago

How Can we Apply Allen, Arkolakis & Li's Framework?

- Evaluate whether the zoning that cities have is welfare enhancing relative to no zoning
 - Slums vs. formal land
- Inform cities on how to enhance zoning policy
 - Challenge of having the right data for quantification of the model
 - Big practical political challenges (winners and losers)
 - Attempted formalization of Dharavi, Mumbai slum is an example
- Inform cities on welfare consequences of changing the internal transport network
 - Building roads, transit
 - Pricing schemes for roads and transit

Comments on Jedwab & Storeygard

- Very nice data construction – lots of useful facts in these data
 - One of the first uses of panel data to look at effects of transport infrastructure across cities
 - Highlights the research and policy return that would be available from having higher quality data of similar type
- I wonder how urbanization influences your measures of market access, since you only incorporate urban populations. It seems that you ignore rural populations?
 - Since you know total urban population from your data, you could use your estimates to calculate how much urbanization vs cross-city reallocation is driving your results
- While we tend to think that urbanization is related to economic growth, it is difficult to say much more about what these results means for welfare.
- Lots of opportunity for heterogeneity in effects here – could this reflect population moving to regionally important or capital cities well served by roads?

MA and Policy Relevance

- MA measure is an approximation – in Eaton-Kortum τ is an iceberg trade cost and MA is technically a recursive function
 - Trade costs are usually thought of as concave in travel times
 - The reason to be true to a theoretical measure is it facilitates carrying out welfare analysis – otherwise you might as well go as nonparametric as possible
- Your market access measure $MA_{ot} = \sum_d P_{dt} \tau_{odt}^{-\sigma}$ imposes a very specific functional form that may be difficult for policymakers to use
- You have the data (but maybe not the power?) to measure “market potential” more non-parametrically with rings.
- Perhaps what is even easier to understand is effects of roads directly. How much do the population weights matter? I suspect they don’t matter much since they are rightly not used for identifying variation

Identification

- I don't understand how your instrument gets rid of using new roads nearby. I think what you want is to use the $t-10$ network out to some distance radius and then start using the t network, to reach all locations (in addition to using P_{t-10})
- Why larger IV effects for roads built further out?
 - Treatment group is set of cities in a country that got more roads just beyond the distance cutoff to those that didn't. I wonder if you are comparing increasingly remote corners of countries to more populated areas with this procedure, and roads are causing population shifts from such remote areas to populated areas
 - Implies an interaction with initial population may be informative
- Country fixed effects may not be what you want, as it forces you to compare the cities in the most settled part of the country (as the treatment group) with more remote cities (in the control group)
 - Maybe instead you want to essentially identify off of the timing that major cities were hooked into the road network

What Is Needed for More Work on Cities in the Developing World?

- Data
 - Commuting matrices, transport network, residential and employment spatial distributions, etc.
- Clean Identifying Variation
 - It is difficult to run sensible RCTs in cities because of complicated spillover effects
 - Need policy variation over a lot of cities to recover informative policy relevant estimates
- Modeling
 - With Costas' help, we are just starting to get the point that we have models that can describe urban data and deliver useful policy implications
 - Institutional contexts often make such endeavors difficult

Thank You