"Living in a Ghost Town: The Geography of Depopulation and Aging" (Giannone, Miyauchi, Paixão, Pang, Suzuki)

Japan Economic Seminar

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Summary

- Timely and insightful work on a topic of enormous importance: aging
  - many discussions on aging and its impact on nationwide outcomes
  - but aging hits localities differently. Imperfect mobility + differential impacts $\Longrightarrow$ welfare consequences across locations
- Main findings
  - aging (de-population) leads to net flows of young people from small to big cities
  - mechanism: lower density $\Longrightarrow$ lower amenities, especially for the young (who are also more mobile)
  - in the making: implications for welfare and evaluations of policies

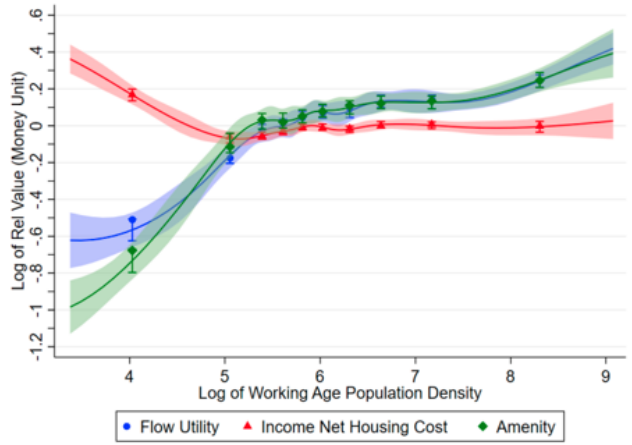
The paper breaks three new grounds

- Descriptive analysis on aging and population distribution of Japanese municipalities over past 40 years
  - careful (and painstaking) efforts at data collection and analysis
  - result: young people's out-migrating from small cities accounts for $\frac{3}{4}$ of population decline in these cities

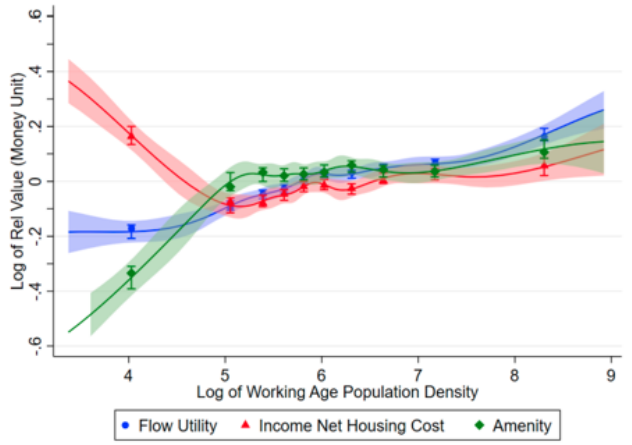
The paper breaks three new grounds

- A revealed preference approach to uncover the reason
  - flow utility difference: the young (25-29) dislike small cities more than the mature (45-49)
  - framework accounts for dynamic and life-cycle motive, important for
    - recovering flow utility
    - subsequent counterfactuals
- Extrapolate into the future to evaluate different aging scenarios
  - compared to analysis by demographers, the framework incorporates endogenous migration choice

Unpacking Youth's (Age 25-29) Flow Utility in 2010



Unpacking Age 45-49's Flow Utility in 2010



Measurement

- An advantage of the framework is that it disentangles continuation value from flow utility
  - Intuition: the continuation value $V_t^N(a)$ inherently related to the flow utility of n for $a+1$, $a+2$, ..., T, in *future* year $t+1$, $t+2$, ..., $t+T-a$, i.e., $u_t^n(a)$, $u_{t+1}^n(a+1)$,...$u_{t+T-a}^n(T)$
  - A naive approach is to overlook the evolution and instead use $u_t^n(a)$, $u_t^n(a+1)$,...$u_t^n(T)$; a even more naive approach is to simply use u^n
  - Both alternatives can be problematic when people of different type value amenities differently or when the economy is non-stationary
- Are housing shares (θ in the model) heterogeneous across locations? Are the share of long-term employment different across cities?

What explains the pattern?

- Common (proportion) amenities for both young and mature, but young's utility loads more heavily on these amenities
- Young prefers different things than the mature and are crowded out in places where the mature is the majority
  - higher old *share* $\Longrightarrow$ young people move out
- The model takes the first explanation and the paper (appendix) has some analysis on the latter; would be good to engage in the discussion of the two alternative explanations

Validation for the model explanation

- $u^n(a) = \ln I^n(a) - \theta \ln R^n - \left[\frac{1-\theta}{1-\eta} \ln \left(1 + \left(P_{NT}^n\right)^{1-\eta}\right)\right] + \ln X^n(a)$
- T1EV shock implies that when $X^n(a)$ is larger, a decrease in P_{NT}^n affects welfare more
- as a validation: useful to see how much variations there are in ln $X^n(a)$ across cities and age, and how the amenities implied by this particular function form fit the measured amenities across the city size distribution

Final thought

- Vast spatial reallocation in many countries around the world over the past forty years. The broad trend is increasing population concentration.
- Different context-specific explanations: endogenous amenities, communication technologies, the decline in marriage institutions, de-industrialization in developed countries, urbanization and industrialization in developing countries, aging, ...
- How does each of these forces interact with/contribute to the broad trend?

- Thank you for this interesting and insightful paper!
- Looking forward to seeing more policy analysis using the framework