

David Sneddon

ECON 545 Project Proposal

It's an old story. Young people full of optimism and dreams of prosperity leave home and head to the big city to make their dreams a reality. In essence, I want to examine this trope, does proximity to a city have a statistically significant effect on Intergenerational Elasticity? There is a treasure trove of data available from the US Census bureau to develop an econometric model. I will use metropolitan and micropolitan statistical area data and county level data for testing.

There will likely be a need for more than one regressor but at the simplest level the model being tested is:

$$\widehat{IGE} = \hat{\beta}_0 + \text{arsinh}(\hat{\beta}_1(d)) + \text{arsinh}(\hat{\beta}_2(\Delta\rho)) + \hat{\beta}_3(d \times \Delta\rho) + \varepsilon$$

Where d is the the distance in kilometers between a county and the most population dense county in the statistical area using the haversine formula and $\Delta\rho$ is the difference between the two county population densities. I'm going use inverse hyperbolic sine to approximate a log-log regression as I plan to use centroids for each county for distance measuring and I do not want to exclude the most dense counties from the analysis. My hypothesis there will be a positive relationship between d and IGE and thus intergenerational mobility will decrease with greater distance distance from the city. I will assume that agglomeration results in higher incomes.