Method & Data Presentation

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fixed-effect regression model

- Base Model:

$$Y_{Recip-rate} = \alpha_i + \beta_1 X_{sec_{it}} + \beta_2 X_{clustering_{it}} + \beta_3 X_{vonluteering_{it}} + u_{it}$$

where α_i is the sum of constant term and unobserved time-invariant heterogenities across counties : $\alpha_i = \beta_0 + \beta Z_i$

- Assumptions:
  - u_{it} is not correlated with other explanatory variables
  - $X_{1t}, X_{2t}, ...X_{nt}, ...u_{1t}, u_{2t}, ...u_{nt}$ are i.i.d. from the distribution

The base model can be expressed as a regression model containing $n-1$ dummy regressors and a constant:

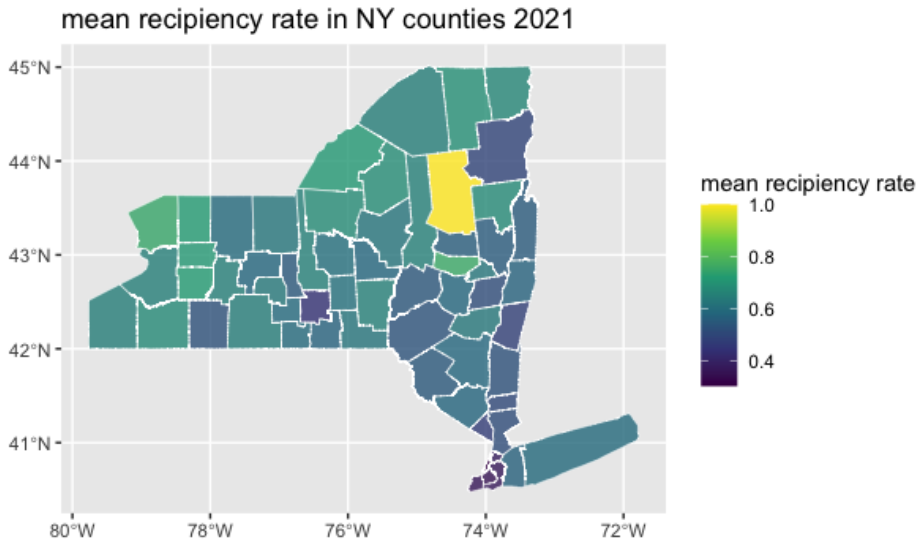
$$Y_{it} = \beta_0 + \beta_1 X_{sec_{it}} + \beta_2 X_{clustering_{it}} + \beta_3 X_{vonlunteering_{it}} + \gamma_2 D2_i + \gamma_3 D3_i + ... + \gamma_n Dn_i + \mu_{it}$$

Data processing

- Panel data Construction:
- calculate take-up rate from cleaned and organized claim data
- merge dataset from social capital measures (cross-section data) and UI claim related data (time-series) by county

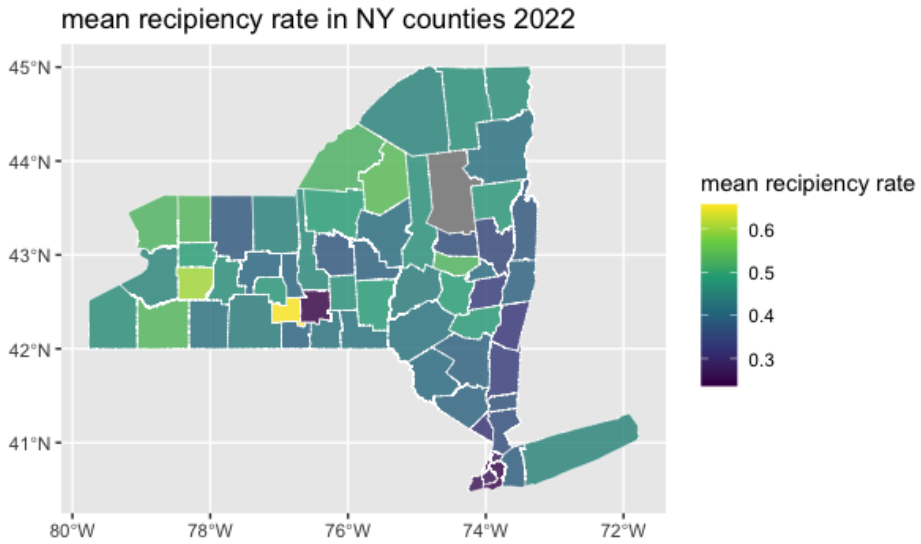
Initial Results

- average recip-rate across NY counties in 2021:



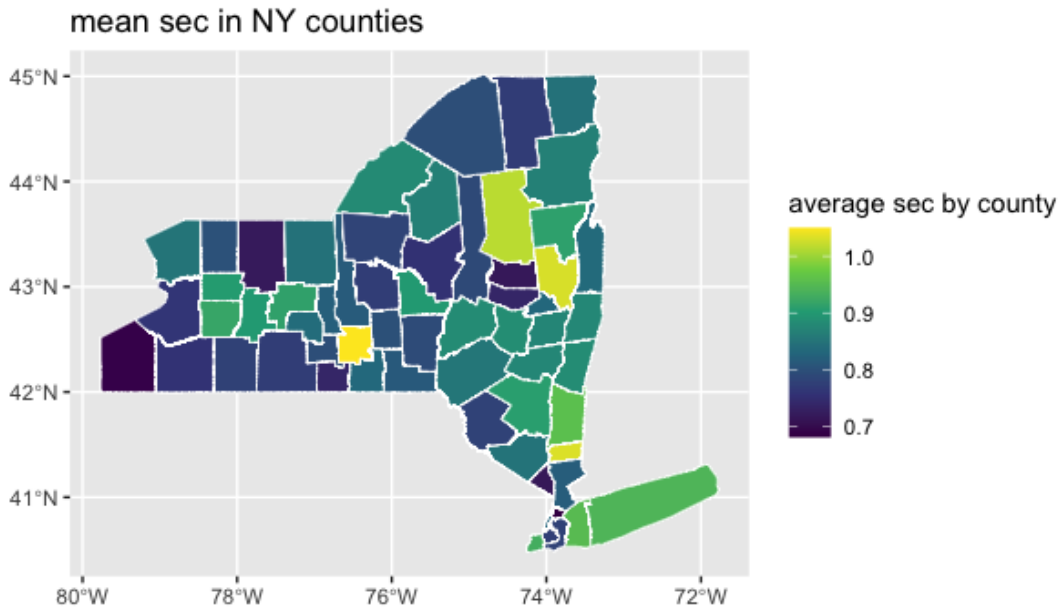
Initial Results

- average recip-rate across NY counties in 2022:



Initial Results

-average sec across NY counties:



Work cited

- https://www.econometrics-with-r.org/10.3-fixed-effects-regression.html