The Transformation of Post Offices in Partner Offices: Analysis of Effects on Demand

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Summary

- This paper studies the effects of the transformation of some post offices into partner offices on their activity level
- It shows that these transformations lead to a strong decrease of activity at the time of change (both on total activity and on mail and parcels only)
- However, these negative shocks are transitory and after several months the global activity level is similar than what it would be without the transformation (while it takes more time for mail and parcels only)
- The econometric framework is simple and convincing: the endogeneity of transformation into partnerships seems well instrumented by past changes in activity and duration to transformation



Econometric Modelling

Transformation process:

$$N_{ti} = 1_{\tau_i \leq t}$$

Demand (global activity):

$$Y_{ti} = \alpha + \beta Y_{t-1i} + \gamma N_{ti} + \delta N_{t-1i} + u_{ti}$$

- Estimation is done with instruments W_{ti} satisfying $E(u_{ti}|W_{ti}) = 0$ where $W_{ti} = (Y_{t-1i}, N_{t-1i}, \tau_i)$
- Replace N_{ti} by $E(N_{ti}|W_{ti})$
- The OLS bias is in the "good" direction: it shows that unobserved shocks to activity are lower for offices which are transformed



Some suggestions

 Why not allow past activity to affect current activity differently if transformation as occurred? and on the type of office? as in the following

$$Y_{ti} = \alpha \\ +\beta_{00} 1_{\{N_{t-1}i=0, N_{ti}=0\}} Y_{t-1}i \\ +\beta_{01} 1_{\{N_{t-1}i=0, N_{ti}=1\}} Y_{t-1}i \\ +\beta_{11} 1_{\{N_{t-1}i=1, N_{ti}=1\}} Y_{t-1}i \\ +\gamma N_{ti} +\delta N_{t-1}i + u_{ti}$$

 Why not use more geographic information and allow some spatial correlation? Would be a nice extension.

Caveats and Limitations

- Does not answer several interesting questions to which this work is a first step:
 - Other transformations into partnerships with local retailers are not studied
 - Effects on each type of activity separately (stamps, mail, parcels, express)
 - What are the network effects of these transformations? Demand in one office may be correlated with demand in other geographically close offices.
 - Are transitory reductions in activity (when an office is transformed) going to a neighboring office?
 - Are these transformations welfare improving? What are the costs and benefits?