DOES WELFARE DEPENDENT NEIGHBORS MATTER FOR INDIVIDUAL WELFARE DEPENDENCY ? -EVIDENCE FROM MERGED NEIGHBORHOOD DATA FOR GERMANY

Thomas K. Bauer [a)] and Rui Dang [b)]

a) RWI , Ruhr University Bochum and IZA-Bonn b) Ruhr Graduate School in Economics and Ruhr University Bochum

Objective

- In this paper, we examine neighborhood peer effects in use of social benefit among people living in Germany
- Social benefit in Germany: Arbeitslosengeld II (ALG II) after the Hartz IV reform in 2004

Keywords: Neighborhood effects ; Welfare use; Non-random sorting

Data

- German Socio-Economic Panel (GSOEP)
  - Representative private households in Germany
  - Panel structure
  - Waves: 2007,2008,2009 and 2010
  - Dependent variable:
    - Use of social benefit (ALG II: yes\no)
    - Age (15-65)
    - Gender(women: yes\no)
    - Marital status (married: yes\no)
    - Higher education (college graduates: yes\no)
    - Place of residence (urban area: yes\no)
    - Number of children in household (0-7)
- Official neigborhood statistics from the German Federal Employment Agency
  - Definition of neighborhood: Postcode areas
  - Neighborhood social structure
    - Share of social benefit recipients (%)
    - Share of college graduates (%)
    - Share of foreigners (%)
  - Neighborhood demographic information
    - Population size (1,000)
- Rental price data from the ImmobillienScout24

The largest online platform for real estate transactions in Germany:
3.29 million appartment rental offers during 2007-2010

- Sample size:

Total no. person-year observations in the merged dataset: 40478
2007: 12316
2008: 10467
2009: 9370
2010: 8325

Method

- Analysis of welfare use subject to neighborhood welfare culture, population, share of college graduates, share of foreigners; and individual socioeconomic status.
- Following Bayer and Ross (2009), we estimate a hedonic rental price regression as an empirical control for the neighborhood unobservable in the individual social benefit receipt regression.
- Model to correct the residential sorting bias :
  - Step 1: Hedonic Rental Price Regression

$$\log(Price_{mjt}) = \xi + \rho \times H_{mjt} + \psi \times NB_{jt} + \zeta_{mjt}$$

  - Step 2: Individual Social Benefit Receipt Regression

$$Y_{ijt} = \alpha + \beta \times X_{ijt} + \theta \times \overline{GW}_{jt} + \gamma \times Z_{jt} + \overbrace{\overline{\lambda}_{jt}}^{\text{average residual of the hedonic regression}} + \varepsilon_{ijt}$$

- IV Estimation :

Identifying assumption: cells based means of neighborhood attributes conditional on observed individual attributes are linked to welfare use of individuals only through neighbrohood observable

- Constructing IV:
  - Group individuals into cells conditional on observed characteristics and annual household income.
  - Calculate means of neighborhood attributes for each cell as instruments for observed neighborhood attributes.
  - These instruments are predictive location choice and uncorrelated to unobserved individual attributes

Descriptive Statistics

Dependent Variable

Dependent variable	Mean All	Mean Renters	Mean Immigrants
Welfare use of individuals (%)	7	11,8	13,5
No. person-year obs.	40478	18700	8902

Data Source: GSOEP

Dependent Variable

- Neighbourhood characteristics

Neighbourhood attributes:	Mean All	Mean West	Mean East
Share of social benefit recipients (%)	0.103	0.997	1.378
Share of college educated (%)	8.944	8.943	8.952
Share of foreigners (%)	10.134	10.861	2.443
Population size (1,000)	8.524	10.861	2.443
No. postcode areas	2164	1977	187

Data Source: German Federal Employment Agency

- Individual characteristics

Individual and Household attributes:	Mean All	Mean Renters	Mean Immigrants
Age	40.772	39.088	37.946
Women	0.515	0.524	0.518
Marital status	0.466	0.439	0.477
Higher education	0.23	0.172	0.162
Living in urban regions	0.598	0.627	0.675
No. Children in household	0.026	0.026	0.035
No. person-year obs.	40478	18700	8902

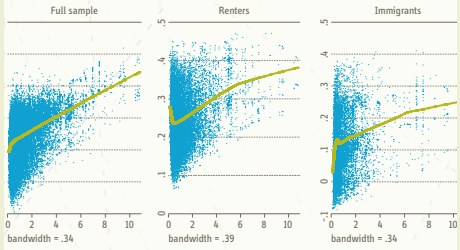
Data Source: GSOEP

Results

Dependent variable	Welfare use All samples		Welfare use Renters		Welfare use Immigrants	
	OLS	Final IV	OLS	Final IV	OLS	Final IV
Neighbourhood share of ALG II recipients (%)	0.0124***	0.0082**	0.0137*	0.0154***	0.0134*	0.0140*
Hedonic control		yes		yes		yes
Fixed effects	yes	yes	yes	yes	yes	yes
N	40478	40478	18700	18700	8902	8902
R^2	0.014	0.014	0.003	0.034	0.022	0.011

Figure 1
Non-linear neighborhood peer effects in individual welfare use

- Lowess smoother of predicted welfare use



Conclusions

- Neighborhood welfare norm influence individual welfare participation after controlling for sorting bias.
- IV estimates of the control function show that 10 percentage points increase in neighborhood share of welfare recipients raises individual probability of receiving social benefit by :
  - 8.2% for our full sample
  - 14 % for immigrants
  - 15.4 % for renters
  - 6.8 % for native German
  - 1.1 % for home owners
- IV estimates show that heterogeneity in neighborhood effects and patterns of sorting bias.
  - For our full sample, there is upward sorting bias arising from OLS estimates
  - For renters and immigrants, there is downward sorting bias arising from OLS estimates
- OLS estimates are downwards biased for subgroups with low socioeconomic status, suggesting that:
  - Socially disadvantaged households tend to sort into neighborhoods with better prospects in leaving poverty, and
  - The neighborhood quality is positively correlated to individual unobservable that contribute to leaving welfare.

Policy implications

- Place based policies such as target transfers or subsidies towards particular geographic areas are effective in reducing welfare dependency of socio-economically disadvantaged households and thus helping them escape the poverty trap.

Contact information

Rui Dang, RGS Econ, rui.dang@rgs-econ.de