Investigating People-Place Effects in the UK using Linked Longitudinal Survey and Administrative Data

A project funded by the Nuffield Foundation and led by Gundi Knies (ISER University of Essex) and Patricia Melo (ISEG University of Lisbon)

The aim of the project is to provide new evidence for the UK on the presence of place effects and their relative contribution to individual wellbeing, addressing key issues of identification and selection and bridging knowledge from multiple disciplines.

The question of how place shapes individual wellbeing has been the focus of much scholarly and political debate for decades. Evidence-based local approaches to tackling poverty and inequality have been impeded by the challenges of identifying a causal relationship between residential location and individual wellbeing - because of the complex non-random mechanisms by which people decide where to live.

We found that some progress has been made in addressing selection bias and reverse causality in the recent neighbourhood effects research. But progress is concentrated among studies that focus on objective outcomes (income, employment). Studies also continue to use a wide range of spatial scales, with those looking at subjective wellbeing (life satisfaction and self-rated health) focussing on more immediate and sociologically more meaningful units. Studies focused on life satisfaction paid closer attention to the causal mechanisms involved.

Our empirical analysis brings these disjointed literatures and approaches together and draws on state-of-the-art methods used to address identification issues in neighbourhood effects research. We use data from Understanding Society: the UK Household Longitudinal Study (UKHLS) and have created longitudinally harmonised neighbourhood data for UK Census Output Areas 2001 and 2011 (and bespoke aggregations thereof). We linked the two at the level of the postcode.

How much do neighbourhood effects matter for wellbeing and do different approaches to measuring the effects tell a different story?

A typical approach in the neighbourhood effects research using linked survey and geo-coded administrative data is to regress wellbeing on neighbourhood characteristics at a single point in time, controlling for contemporaneous individual characteristics. Two main identification problems arise in this framework. There may be complex correlation patterns between (1) the observed characteristics of neighbourhoods and the unobserved characteristics of individuals (implying that there is residential sorting of individuals based on their unobserved characteristics), and between (2) the observed and unobserved characteristics of neighbourhoods (implying that there is correlation between unobserved and observed neighbourhood attributes).

Our approach is ambitious. We observe individuals and neighbourhoods at multiple points in time. We observe when people move and in our empirical models can account for the characteristics of people and places that do not change over time but which have not been measured or were measured with error. We also have flexible definitions of ‘neighbourhood’.

Roadmap for our empirical analysis

Wellbeing outcomes

Self-rated health (ordinal)
Life satisfaction (ordinal)
Labour income (continuous)
Low-pay dynamics (binary)
Unemployed (binary)

Model specifications

Neighbourhood attributes
Individual attributes
Initial conditions (e.g., first job)
Family background
Individual/area controls (e.g., length of residence)

Neighbourhood definitions

Administrative boundaries
Census 2001 OAs, LSOAs, LADs
Bespoke boundaries for k nearest population, where k=500, 1000, 2000, 3000, …, 10000)

Estimation strategy

Main analysis

Main estimators
Pooled OLS
Individual random-effects
Individual fixed-effects
Correlated random-effects
Instrumental Variables

Allow for **nonlinearities** in neighbourhood effects (e.g., semi-parametric models)

Sensitivity analyses

Sample restrictions
Non-movers only
Living with parents and/or moved back to parents home
Prefer to move home
Plans to stay in area
Social housing

Address selection issue by adding propensity scores for treatment into the mean outcome of area (control for sorting)

Cell-based IV method, creating instruments for area characteristics by averaging area attributes over all observably identical individuals

Address endogeneity issue by estimating house price/rent regression and use residual of the average area as additional control for unobserved area attributes

Which neighbourhood characteristics are important?

Our initial focus is on the effect of neighbourhood deprivation (based on proportion of unemployed, in overcrowded housing, without a car and not home-owners) and ethnic composition on wellbeing. We collaborate with two other Nuffield-funded projects on aspects of ethnicity and migration.

How can you help and get involved?

Let us know of any analyses your community would be particularly interested in, and of any upcoming events/debates that our research could contribute to. We are also interested in adding further neighbourhood characteristics to our portfolio. Ideally, we are looking for neighbourhood characteristics that are continuous, available at the scale of UK Census 2001 Output Areas, and time-varying.

For further information and project updates, visit
http://www.nuffieldfoundation.org/investigating-people-place-effects-uk

Gundi Knies (gknies@essex.ac.uk) & Patricia Melo (pmelo@iseg.ulisboa.pt)

Nuffield Foundation
ISER INSTITUTE FOR SOCIAL & ECONOMIC RESEARCH
ISEG LISBON SCHOOL OF ECONOMICS & MANAGEMENT UNIVERSIDADE DE LISBOA