

Household location in the face of diverging job perspectives – evidence from Germany

Uwe Neumann and Christoph M. Schmidt

Extended abstract

Introduction

The literature on urbanisation received a new impetus in the 1980s, when a number of authors argued that - in the face of global economic restructuring - urban industrial societies may experience increasing international migration directed at large cities and a rise of income segregation by occupation and residential segregation within urban areas (Friedmann 1986, Sassen 1991). This “polarisation hypothesis” - which proposes a strong link between spatial agglomeration and segregation forces - has been the matter of an ongoing controversial discussion. At the present time, it is not well documented whether cities have indeed been subject to significant changes in neighbourhood populations over the course of the most recent decades. Nevertheless, the discussion about social polarisation has inspired many place-based policy measures designed to overcome spatial inequality.

One of the major countries for which the regional and local outcomes of economic change should be addressed is Germany, Europe’s largest economy. In comparison with other advanced economies, e.g. Japan, South Korea, the UK and the US, income disparities in Germany are moderate, but have increased considerably in recent decades. In the study of the labour market effects of technological change it is expected that differentials in job perspectives and income by occupation may increase considerably due to further progress in automation and substitution of manual work (Autor et al. 2003, Autor 2015).

Income segregation by occupation may well coalesce with changes of residential segregation processes, since income and job perspectives figure prominently among the determinants of household location choice. It is the purpose of the following analysis to utilise comprehensive

individual- and household-level data from the German Socio-Economic Panel (SOEP) in order to examine whether sorting by income and occupation across different types of neighbourhood has increased in line with continuing agglomeration during the past decades.

Literature review

In the transition process towards a completely digitised labour market many job tasks will face the threat of automation, as cost of computer technology is perpetually declining. Bachmann et al. (2019) demonstrate for Germany that for workers engaged mainly in routine tasks job stability has decreased and the likelihood of unemployment increased significantly over the past four decades. These developments will affect the household budgets of lower-skilled workers, for which housing expenditures play a prominent role. Since regional variation of housing prices and rents is substantial, the expected occupational stratification might interrelate quite closely with residential segregation (Behrens et al. 2018).

Because of the simultaneity of average neighbourhood and individual household characteristics it is complicated to document empirically how households “vote with their feet” when they decide where to locate or which location to leave. A specific field of research on neighbourhood sorting has started to overcome some of these identification problems (Epple and Sieg 1999, Bayer et al. 2004, Kuminoff et al. 2013).

In the 2000s a renewed “city-mindedness” motivated a more general reurbanisation trend in Europe (Haase et al. 2010) and North America (Couture and Handbury 2017). An increase in urban housing prices and further gentrification may be part of the consequences. Yet, the experiences from the Covid pandemic might change preferences in terms of urban density and centrality, once again. Delventhal et al. (2021) argue that a permanent increase in the share of people working from home might induce considerable effects on segregation and urban housing markets. While the longer-lasting outcomes of the pandemic on mobility, location choices and

housing prices remain uncertain, inequality in the opportunity to work from home might exacerbate divergence.

More distinct sorting by income would likely induce undesirable effects regarding the population of poor neighbourhoods. In Germany, the federal government has supported local area-based regeneration by means of a national “Socially Integrative City (Soziale Stadt)” programme since 1999. Yet, the study will examine the characteristics of households residing in the deprived neighbourhoods designated as programme areas.

The SOEP as data source

In Germany, restricted access to neighbourhood-related information in microdata imposes considerable constraints on segregation analysis. The German Socio-Economic Panel (SOEP) has become a standard data source for individual and household-level analysis. Started in 1984, the SOEP is an annual representative study of private households in Germany, comprising various topics, e.g. household composition, residence, earnings and occupation of household members.

The information about households and individuals can be linked to regional identifiers, but due to small sizes of regional clusters, it would be difficult to construct a sample, which is representative of a specific city or region (Giesselmann et al. 2019). However, the SOEP may be used in order to study the regional context, e.g. with respect to broader regional categories (Goebel and Zimmermann 2021). Furthermore, it offers valuable information on the nature of the respondents' housing and neighbourhood.

A new refreshment sample O from 2018 was designed specifically to increase the number of households from Socially Integrative City programme areas and therefore provides the opportunity to study the characteristics of households in deprived neighbourhoods. The SOEP-Core v36 from 2019, which will be the base of the following study, comprises information about nearly 1,000 households from programme areas in 2016. A new variable “socurban”

going back to the year 2000 even identifies over 700 households from 2000 as residents of Socially Integrative City areas (SOEP Group 2020).

Due to this ample information, the SOEP provides a sound basis for the study of sorting across neighbourhood categories. The basic unit of observation is the household. Six types of housing environment will be distinguished, which have explicitly been constructed to capture the amalgamation of the various factors presumed to reflect the location choice.

Empirical Strategy

In our theoretical framework, which derives from a probabilistic approach to study household location, we consider a sorting equilibrium in which each household chooses its residence in order to maximise its utility regarding the simultaneous (and sometimes conflicting) desires for housing space, neighbourhood characteristics and distance to jobs and amenities. The utility of location choice divides into mean indirect utilities, which are assumed to be common to all households, and household-specific preferences deriving from household characteristics. Individual and choice-specific average preferences will be estimated in terms of a multinomial logit (MNL) model. In a second step, mean utilities are disentangled using a fixed effects model accounting for unobservable heterogeneity between macro-regional housing environment options at the level of German federal states.

In a final step we examine change over the past two decades in the likelihood to reside in one of the deprived neighbourhoods, which have been supported by the “Socially Integrative City” programme.

Findings

Even though inequality of household income in Germany is moderate, choice among broad types of residential location varies profoundly by income and age. We find that during the past two decades, average location preferences have shifted more in favour of central urban

locations. As a consequence of the agglomeration forces thereby documented, rents in inner urban areas have increased at a greater pace than in outer urban zones and rural regions.

While location preferences apparently persist over long periods the analysis has outlined that a certain degree of divergence by skills and occupation has affected location choices, most prominently during the past two decades. It has become relatively more likely for unskilled workers to choose residence in rural regions, while they had been more likely to reside at urban locations in previous decades. People with a higher qualification, on the other hand, have continued to agglomerate in urban rather than rural regions.

Relatively little changes, however, have affected the likelihood of skilled manual workers to reside at a specific neighbourhood category. It seems that the overall reduction in the share of skilled manual workers has not been accompanied by a decrease in their heterogeneity of residential location choices among broad categories of the housing environment.

Since the beginning of the Covid pandemic in 2020 regional scientists have started to discuss once more about whether rural locations might gain in attractiveness as places of residence. After all, the long-expected impact of rapidly improving information and communication technology on personal interaction has experienced a considerable spur. It has become possible for an even greater share of the workforce to disperse into more peripheral locations. Yet, due to persisting agglomeration forces it may once again be too early to summon up an era of disurbanisation.

For those in lower-skilled jobs who cannot work from home a renewed shift of mean location preferences to outer urban zones might imply relocation to even more peripheral parts of urban agglomerations and longer commuting.

While up to 2019 average preferences had shifted in favour of more central urban areas, cities have also remained to be the place of life for most poor households. Given a strong overall desire to reside at relatively central urban locations, an upgrading of local housing environments, however, carries the danger of gentrification and displacement of households with a low income. It is debatable whether place-based policy might truly be able to improve

the prosperity of low-income households in neighbourhoods with high poverty rates. The household-level evidence provided by the SOEP suggests that in West Germany no considerable changes have affected the likelihood of households to reside in a deprived programme area over the past two decades.

All in all, the analysis finds that the outcomes of structural economic change since the 1980s have coincided with a strong desire to reside in affordable housing among the large urban regions in West Germany. Rather than provoking further polarisation regarding income inequality amongst neighbouring city districts spatial economic gravitation may edge out poorer households from the more desirable central parts of cities altogether.

References

- Autor, D.H. (2015) Why are there still so many jobs? The history and future of workplace automation. *Journal of Economic Perspectives* 29(3): 3-30
- Autor DH, Levy F, Murnane RJ (2003) The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics* 118(4): 1279–1333
- Bachmann, R., Cim, M., & Green, C. (2019). Long-run patterns of labour market polarisation: Evidence from German micro data. *British Journal of Industrial Relations* 57(2): 350-376
- Bayer P, McMillan R, Rueben K (2004) An equilibrium model of sorting in an urban housing market (NBER Working Papers, No. 10865) NBER, Cambridge, MA
- Behrens K, Pokrovsky D, Zhelobodko E (2018) Market size, occupational self-selection, sorting, and income inequality. *Journal of Regional Science* 58(1): 38–62
- Couture V, Handbury J (2017) Urban revival in America, 2000-2010 (NBER Working Papers, 24084). Cambridge, MA
- Delventhal MJ, Kwon E, Parkhomenko A (2021) JUE Insight: How do cities change when we work from home? *Journal of Urban Economics*, 103331 (forthcoming)
- Epple D, Sieg H (1999) Estimating equilibrium models of local jurisdictions. *Journal of Political Economy* 107(141): 645–681
- Friedmann J (1986) The world city hypothesis. *Development and Change* 17(1): 69–83
- Giesselmann M, Bohmann S, Goebel J, Krause P, Liebau E, Richter D, Schacht D, Schröder C, Schupp S, Liebig S (2019) The Individual in context(s): research potentials of the Socio-Economic Panel Study (SOEP) in Sociology. *European Sociological Review* 35(5): 738-755
- Goebel J, Zimmermann S (2021) Verändert sich die Einschätzung des Zusammenhalts in der Wohnumgebung im Zuge der Corona Pandemie? *Stadtforschung und Statistik* 34(1): 8-16
- Haase A, Kabisch S, Steinführer A, Bouzarovski S, Hall R, Ogden P (2010) Emergent spaces of reurbanisation: exploring the demographic dimension of inner-city residential change in a European setting. *Population, Space and Place* 16(5): 443–463

- Kuminoff N, Smith VK, Timmins C (2013) The new economics of equilibrium sorting and policy evaluation using housing markets. *Journal of Economic Literature* 51(4): 1007–1062
- Sassen S (1991) *The global city*. Princeton UP, New York et al.
- SOEP Group (2020), SOEP-Core v35 – HBRUTTO: Household-Related Gross File. *SOEP Survey Papers* 829: Series D – Variable Descriptions and Coding. DIW/SOEP, Berlin.