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Title: Inequality of Opportunity in Education, Occupation, Income, and Wealth

Authors:

- Sanni Kuikka, sanni.kuikka@sociology.su.se, Stockholm University SUDA & Institute for Analytical Sociology (presenting)
- Max Thaning, max.thaning@sofi.su.se, Stockholm University SOFI

Abstract (448 words)

This paper applies a novel approach for understanding to what extent children's life chances are constrained by their background and upbringing, in the context of Sweden. Relying on the framework of (in)equality of opportunity (IOp) developed by John Roemer (1998), we conceptualize inequality as stemming from both the circumstances individuals are brought up in, as well as individual efforts. While distinguishing between these two components – circumstances and efforts – has its challenges, as well as political, philosophical, and conceptual debates (see e.g. Byskov et al., 2023; Grätz, 2023; Roemer & Trannoy, 2015), we focus on the circumstances defined as follows: the home situation and family constellation, parental socioeconomic status, the neighbourhood one lives in, the school one goes to, sex, race, and migration background. We consider how these circumstances can be jointly leveraged to understand the individuals'' four socioeconomic (SES) outcomes: Education, Occupation, Income, and Wealth.

Recent literature has advanced the methodological approach to measure IOp by integrating the currently used methods – like sibling correlations and fixed effects models - with machine learning (ML) methods: ML approaches for measuring IOp, more specifically regression forests, have been proposed by Brunori et al. (2023), to account for known estimate biases. Recent applications of ML methods for estimating IOp include the case of income transmission in Germany (Brunori & Neidhöfer, 2021), income transmission in Latin America (Brunori, Ferreira, et al., 2023), household consumption in Sub-Saharan Africa (Brunori et al., 2019), wealth in regions of Mexico (Plassot et al., 2022), and income in a cross-national comparison in Europe (Carranza, 2022).

The current examples of the literature share three shortcomings: they are often using cross-sectional survey data, primarily analyzing income as the outcome, and have limited survey based observable variables at their disposal. We address these shortcomings by accounting for the multiple domains of SES (i.e. multidimensional SES), both as the parental input, as well as the child outcomes, to understand the complex dynamics of socioeconomic transmissions (see e.g. Thaning, 2023). Additionally, by using administrative register data we can provide a wider set of (observable) circumstances, and leverage longitudinal high-quality data spanning over several decades.

We will estimate lower and upper bounds of IOp in the four SES outcomes, education, occupation, income, and wealth. We leverage the population registers, focusing on the birth cohorts of 1967-1969 (N ~300 000). The outcome variable income is operationalized as lifetime disposable income, occupation through ISEI status scores (see Ganzeboom & Treiman, 1996), education as the highest education level obtained, and wealth as average net wealth across the available years (1999-2007). Our research question is as follows:

> In the context of Sweden, what are the lower and upper bounds of inequality of opportunity, for each four SES outcomes?

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