

Diffusion of socioeconomic influences across generations

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(Received: 2023/06/20, Published online: 2023/06/24)

In this presentation, I will provide an overview of models of intergenerational mobility. These models describe how the socioeconomic characteristics of parents help determine the future socioeconomic characteristics of their children. Intergenerational mobility has close connections to the concept of equality of opportunity and so its nature and level have normative significance. I will consider both theoretical models of mobility that reflect various socioeconomic mechanisms as well as statistical models that have been used to measure mobility. Part of the talk will therefore involve the relationship between theoretical and statistical models of mobility.

To provide this overview, I will proceed to work through a sequence of Markov models of intergenerational mobility. Each of these models is constituted by the specification of an environment in which features of childhood and adolescence influence future adult outcomes through their effects on the preferences, constraints, and beliefs of individuals and the determination of the outcomes that emerge via individual choices and the interdependences between them that are induced by the social and political structure of the environment.

The first class of theoretical models will relate a scalar measure of parental incomes (the average income of the parent over the life course) to the same measure for children. These models are based on the intuitive idea that parental income helps determine levels of human capital formation in children. Denoting the scalar measure for a parent i as $y_{i,t}$ and for their child as $y_{i,t+1}$, the first class of models will produce conditional probability measures to describe family income dynamics of the form

$$\mu(y_{i,t+1} | y_{i,t}) \tag{1}$$

I will focus on features of this conditional probability structure that are of particular interest to social scientists. I will emphasize the possibility that (1) produces multiple steady states for different families and/or slow convergence rates towards steady states. I will indicate how contemporary empirical studies of mobility often use statistical models that are inappropriate for uncovering phenomena such as poverty traps. This occurs because of the limits in the capacity of conventional statistical frameworks to reveal nonlinearities in the dynamics.

Next, I will enrich the underlying behavior foundations of models that produce (1) by incorporating social factors, s_t that affect children. These social factors include neighborhood and school characteristics and lead to family income dynamics of the form

$$\mu(y_{i,t+1} | y_{i,t}, s_{i,t}) \tag{2}$$

I will argue that this formulation produces two important implications that are new relative to the first model. First, the introduction of social factors demonstrates the role of segregation in creating persistence in socioeconomic status across generations. Second, the formulation implies that increased inequality within a generation can increase persistence across generations, which is consistent with an empirical regularity known as the Great Gatsby Curve. While nonlinearities in (1) can produce a Gatsby Curve, (2) provides a behavioral, as opposed to mathematical, explanation for the empirical finding.

I will complete the overview by describing a new set of models that emphasize the importance of childhood exposures at different ages. If one denotes $y_{i,r,t}$ as family income and $s_{i,r,t}$ as social influences when the child is age r , these models imply income dynamics take the form

$$\mu\left(y_{i,t+1} \mid y_{i,0,t}, \dots, y_{i,18,t}, s_{i,0,t}, \dots, s_{i,18,t}\right) \quad (3)$$

This class of models has only begun to be analysed and I will present some of the new insights the approach has already produced.

As this sequence of models indicates, as one incorporates greater social science richness, intergenerational mobility analysis involves increasing complex stochastic processes. Hence there is the potential for much fruitful collaboration between mobility researchers and diffusion researchers.

References

- [1] Y. Chang, S. Durlauf, S. Lee, and J. Park, A Trajectories-Based Approach to Measuring Intergenerational Mobility, National Bureau of Economic Research Working Paper no. 31020, 2023.
- [2] N. Cholli and S. Durlauf, Intergenerational Mobility, National Bureau of Economic Research Working Paper no. 29760, 2022.
- [3] S. Durlauf and A. Seshadri, Understanding the Great Gatsby Curve, with A. Seshadri, Macroeconomics Annual, University of Chicago Press, 2018.
- [4] S. Durlauf, C. M. Tan, and A. Kourtellos. The Great Gatsby Curve, Annual Review of Economics, 2022.