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Intergenerational Mobility Research: Current Challenges and Future Directions[1]

Irma Mooi-Reci*

Abstract

This article discusses major challenges facing intergenerational mobility research in three main domains: (i) the (dis)connection between theory and empirical applications; (ii) data gaps; (iii) measurement concerns. In doing so, it highlights theoretical and empirical extensions to better describe, explain, and predict complex intergenerational transmission processes in the light of new and rapid administrative data linkages, more mature survey data and other forms of big data. The article concludes with future directions for research.

1. Introduction

Recent decades have seen increased concerns in many OECD countries about the rising income inequality (OECD 2017). Specifically, the lack of upward income mobility and the fear that social and economic disparities will persist across generations have revived

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[1] This article is inspired by the academic panel discussion in the first day of the workshop on 'Intergenerational Paths to Self-Sufficiency' organized by the Life Course Centre of Excellence, the Melbourne Institute, and the School of Social and Political Studies at the University of Melbourne in November 2019. I am grateful to all participating panel members, including Tim F. Liao, Miles Corak, Mark Wooden, Janeen Baxter and Jean Wei-Jun Young for their lively debate and discussion during the panel that helped enrich this article.

* School of Social and Political Sciences, The University of Melbourne, Victoria 3010, Australia; e-mail <irma.mooi@unimelb.edu.au>

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the study of intergenerational mobility. Studies dating back to the 1960s, have extensively demonstrated that parental socioeconomic status has a profound impact on their children's future success from birth to adolescence and later in adulthood (for reviews read Blanden 2013; Francesconi and Heckman 2016; Torche 2015). The finding that children's socioeconomic status depends on both ascribed and achieved characteristics, means that public policy should focus on measures that equalise individuals' opportunities, allowing people to fully develop their skills and talents and live up their full potential, independent of their family origin.

While this may sound straightforward, development of appropriate public policy is difficult especially when much of evidence on intergenerational mobility has been hampered by a limited empirical focus, relatively short observation windows and measurement issues. Thus, in order to design policy that promotes intergenerational mobility, it is important to shed light on the mechanisms underlying parent-child correlations; understand the current challenges in intergenerational mobility research; and, consider new theoretical extensions and empirical strategies as richer and more mature data become available. This article addresses this need by discussing major challenges in intergenerational mobility research in three main domains: (i) the (dis)connection between theory and empirical applications; (ii) data gaps; (iii) measurement concerns. It concludes by providing few pointers for future research.

2. Challenge I: The (Dis)Connection between Theory and Empirical Applications

In the social sciences, predictions about intergenerational mobility have been predominantly framed within the status attainment (Blau and Duncan 1967) and income inheritance models (Becker and Tomes 1986). Originating from sociology, the status attainment model relates parents' socioeconomic background (measured through father's education and occupation) and children's skills and talents, to the educational

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and occupational status obtained by children over the life course. The model predicts the strength of parent-child relationships at three different life stages of the child: (i) at education completion; (ii) at labour market entry; (iii) contemporaneously. Originating from economics, the income inheritance theory model (Becker and Tomes 1986) focuses more specifically on parents' monetary resources and investments in the human capital formation of their offspring during childhood that in turn determines children's future economic success as adults. Thus, the model focuses on two periods of life: childhood and adulthood. Common in both theories is the prediction that parents' socioeconomic standing and their children's future socioeconomic success are linked through parental investments in the form of (early) education, educational goods and/or investments in extra-curricular activities and training. This indirect transmission process reflects the idea that parents' resources and status (i.e., incomes, education and occupational status) influence intergenerational class, status or income persistence. Although both models have been fundamental to provide quantified answers to critical questions about intergenerational mobility, major challenges still remain.

First, a key theoretical assumption reflected in intergenerational models is that mother's and father's economic and noneconomic resources jointly determine children's future achievements. However, empirical applications in sociology and economics have revolved around the occupational status and incomes of primary breadwinners (fathers) and their sons lacking emphasis on the role of mother's employment status and incomes (for a review read Torche 2015). Thus, the first challenge is related to the exclusion of mothers and daughters from intergenerational analyses in most intergenerational mobility studies. If the socioeconomic standing of mothers and fathers jointly influence the future achievements of their children, then the correlated but unmeasured status of the omitted parent(s) will lead to an underestimation

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of parent-child associations and biased conclusions. Indeed, Beller (2009) reveals a considerable bias in trends of intergenerational mobility in the United States, where mothers were excluded from mobility analyses. She proposes a joint-parent measure of class origin to better capture mobility patterns but applies her model to employed households, thus failing to include parents without earnings or occupations.

Second, and relatedly, the focus on parents' incomes and occupational status has meant that unemployed, jobless or welfare reliant households have been largely excluded from conventional mobility analyses. Furthermore, most studies on intergenerational mobility have typically considered parents' income and occupation as fixed attributes that remain constant over time. As a result, periods of parental employment instability have been completely ignored or removed by averaging income's over multiple years (Western et al. 2008; Cheng and Song 2019). If intergenerational upward and downward mobility transitions are influenced by changes in parents' employment and earning profiles, then ignoring parental joblessness and employment instability during childhood will lead to a distortion of results about intergenerational mobility. The sample selection bias that emerges when jobless households are omitted from analyses has been addressed more recently by researchers investigating how intergenerational relationships vary conditional on parents' employment instability (Mooi-Reci et al. 2019; Curry et al. 2019). A joint-parental measure for the intensity of parental joblessness has been developed and tested showing higher estimates of intergenerational persistence than measures based on the employment status of only one parent. However, due data limitations, younger children between the ages of 1 and 7 have been excluded from the analyses, and not all parent-child pairs were observed consistently across all waves.

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Third, and finally, much of previous empirical applications have been based on the assumption that parent-child investments are fixed at different ages of the child, thus ignoring fluctuations in incomes and occupational status over their life course as well as parent-child interactions and dynamics when they co-reside in the same household (for a review read Francesconi and Heckman 2016). While convenient for analytical reasons, this assumption is clearly false. Recent studies in economics have proposed new intergeneration models that better account for these dynamics. Heckman and Mosso (2014), for example, present an adjusted intergenerational model that accounts for parent-child interactions and the multiple nature of skills, including children's cognitive and non-cognitive skills such as self-control, risk aversion, neuroticism, patience and discipline. Interesting is the complementarity assumption whereby cognitive and non-cognitive skills are expected to complement each other and magnify with age and time. However, literature is much less clear in distinguishing between the effect of different forms of parental transfers in children's development. This includes parental contributions in cognitive and non-cognitive skill, the quality of time investments, networks and reputation or even implicit or explicit contracts for temporary funds that children pay back after completion education or training.

3. Challenge II: Data Gaps

Intergenerational mobility analysis is particularly technical and complex and requires data that extend over multiple generations. Three common types of data have been used to measure mobility: 1) cross-sectional data with retrospective questions about parents' occupational status when the child was 12 or 14 years old; 2) panel survey data with detailed and repeated information about the social and economic status of different household members followed over extended periods of time; 3) administrative/register and tax data that link information of the parents and their children. Ideally,

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intergenerational analyses require data that cover the life cycle of parents and children. However, data limitations in the past have meant that only fractions of parents' and children's income and occupations status trajectories could be compared.

There is little doubt that in Australia research has in the past been constrained by the lack of data, and data issues still constrain research today. With the advent of the Household, Income and Labour Dynamics in Australia (HILDA) Survey we have seen the emergence of at least five separate studies of intergenerational income mobility. Nevertheless, most of these studies still do not use direct measures of observed incomes of both parents and child. Rather they predict fathers' earnings based on their occupation. The first (and only) study to produce direct estimates of observed income mobility is Murray et al. (2018). However, the analysis has been limited to young people aged 15-17 when the HILDA survey commenced in 2001 and ultimately are left with just 489 parent-child pairs. The relatively short survey data available in Australia indicate that survey data is still not sufficiently mature to generate estimates for monitoring changes within the same families over time.

The use of administrative data may offer a remedy to this problem. A number of recent studies have used the Transgenerational Data Set constructed by the Department of Social Services which links administrative data from Centrelink to the families in which they grew up. This leads to relatively large samples, but not necessarily rich data. Specifically, the data, provides rich information on income support payments (i.e., amount / type / duration) but is sparse on data items that are less central to the purposes behind the data collection (e.g., labour earnings; demographic history; work-family preferences and attitudes). Furthermore, the data is limited with regard to the labour market outcomes when people exit the welfare system.

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Recent studies (Deutscher and Mazumder 2019) have alerted us to the possibility of using tax data to study intergenerational mobility. However, the use of tax data has its problems. First, data access is limited and strictly available to a limited pool of researchers. Second, not all parents and children can be linked – e.g., children of single parents will often not be able to be linked to their fathers – and this is both a non-random, and policy-relevant group. Third, taxable income is not necessarily actual income, and thus misses incomes that are not reported. Research reveals that imputation of incomes using tax data contains a larger measurement error than imputation using survey data (Mazumder 2015). This is most likely due to the relatively limited panel dimension of the tax data. This suggests that data from multiple sources need to be merged in order to complement for people with no taxable incomes.

4. Challenge III: Measurement Concerns

Two major measurement concerns have been recognized in the mobility literature. The first, is the *life-cycle bias*, which reflects changes in the age-dependent earnings profiles of parents and children. This bias can lead to an underestimation or overestimation of IGE when children's earnings are measured respectively too early (in their 20s) or too late in their (50s). According to Mazumder (2015) the bias can be reduced when income is measured at around the age of 40. Thus, centering the time averages of both children's and parents' incomes around the age of 40 would lead to the most efficient correction for life-cycle bias. The second measurement concern is related to the *attenuation bias* which is caused when short fractions of incomes or employment trajectories are used to proxy lifetime earnings or employment of the parent (usually the father) and the respondent (Mazumder 2015; Cheng and Song 2019). This bias is particularly true in studies that use single-year incomes to proxy parents' lifetime earnings (Solon 1992).

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In addition to these two major concerns, I would add a third, namely: the *asymmetrical comparison of intergenerational samples.* This asymmetry emerges when (i) the observed fraction of parents' and children's earnings and employment profiles differ in their total coverage (i.e., observation windows are not equally long). It also emerges when (ii) the earnings profiles of parents and their children are compared at different ages, and thus reflect different career developments and life stages of parents and children. These data asymmetries drive both left-hand and right-hand measurement errors and could explain why different mobility studies find different intergenerational elasticity coefficients (also referred to as IGE coefficients) even within the same country (see Corak's contribution in this edition). Asymmetrical comparison of intergenerational samples is common and even amongst some of the most influential mobility studies. For example, in Chetty et al. (2014) father's incomes were measured over a 5-year average, between 1996 and 2000, when fathers were on average 43.5 years old. For the children in the sample, incomes were measured only in two years when they were between 29 and 32. This example illustrates both the relatively small fraction of time in which fathers' and children's incomes are measured, and the different life stages of fathers' and son's in which incomes are averaged. Most recently, Cheng and Song (2019) address most of these measurement issues using a representative sample of U.S. fathers and sons from the Panel Study of Income Dynamics (PSID). Bivariate growth models, variance function regression models, and Bayesian approaches were combined to capture the income dynamics and trajectories of parents' and children over their life course. Combining the properties of these models allows consideration of both the earnings growth and fluctuation of earnings trajectories over the life course of fathers and sons and shows that the degree of intergenerational economic association is conditional on the life stages of both generations. Despite its merit, this advanced model

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is limited to father-son relationships leaving us with an incomplete picture about transmission processes when including mothers and among daughters. Overall, larger data samples do not always lead to more accurate intergenerational mobility outcomes. Instead, mature and longer data sets enable more accurate and reliable intergenerational estimates.

5. Future Directions: Ways Forward

Studies investigating the patterns of intergenerational disparities are not new and date back to the 1960. Much of the earlier research on intergenerational mobility has extensively assessed how parental socioeconomic status is reproduced through their children's educational attainment and early income and occupational status (for reviews read Francesconi and Heckman 2016; Torche 2015). In more contemporary work, the link between parental unemployment (usually fathers' unemployment) and the socioeconomic outcomes of their children has become a frequent topic of study (for a review read Cobb-Clark et al. 2017). Linked to this research have been studies that investigate intergenerational welfare dependence primarily focusing on female headed sole parent households reliant on welfare (see Cobb-Clark et al. 2017). Over the last decade, important progress has been made to determine causality thanks to the adoption of sophisticated models including twin, sibling fixed effects and instrumental variables approaches (for a review read Black and Devereux 2011). Administrative and tax data have also offered new opportunities to examine intergenerational relationships. Yet, much of the observed parent-child associations still remain unexplained by classic social science determinants and there is room for research in different areas.

1. Association versus causation. As recent studies show (Cobb-Clark et al. 2017; Curry et al. 2019; Mooi-Reci et al. 2019), more important than just measuring the extent of intergenerational mobility is identifying the relative importance of the different

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causal pathways through which intergenerational disadvantage occurs. Some understudied indirect mechanisms include children's attitudes and perceptions about work, parental emotional distress and marital conflict as well as parental time investments and the quality of parent-child interactions. These mechanisms are theoretically well developed but remain poorly empirically examined. For example, a central tenet in the socialization theories (Bandura 1977) is that intergenerational (dis)advantage is transmitted indirectly through children's attitudes and views about work. To date, however, very few studies (e.g., Mooi-Reci et al. 2019) have directly examined if and how much children's work ethics change as result of parental income shocks or parental joblessness and how this in turn influences their labour market behaviour and outcomes. Data that records children's perceptions and views about the importance of work would make it possible to test directly this hypothesis. The challenge however is how to establish causality. Also, less attention has been devoted to investigating the role that children's non-cognitive skills play in the transmission process. Thus, if children with certain personality traits are better protected against adverse economic conditions.

2. More accurate measures. Refinement of parental and outcome measures is another area that deserves more attention. Specifically, in previous research, children's skills and talents have been usually measured in terms of educational attainment, achievement scores, or school-performance. In addition, research that includes information about the socioeconomic status of both parents has shown to provide more accurate intergenerational estimates while it helps determine the relative importance of mother's and father's for their children's outcomes (see Beller 2009).

3. Unravelling new multidisciplinary processes. There is a strong correlation between genes and behavioural outcomes. Specifically, IQ, personality, preferences and

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abilities are found to be partially heritable and play an important role for explaining individual heterogeneity in responses and outcomes (for a review read Plomin et al. 2016). Despite the powerful role of genes in a wide variety of behavioural outcomes, genetic causes have been largely ignored in sociological and economic research. An important avenue for future research is innovative multidisciplinary work that combines social science insights with insights from biology, molecular genetics and neuroscience to understand gene-environment interactions, how they mediate effects of policy while mapping mechanisms that can reduce entrenched inequalities.

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