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1. Introduction

Within any society, the extent to which family background predicts the economic outcomes of children is an indicator of the degree of equality in life chances, or the extent of "equality of opportunity". Societies may tolerate higher levels of inequality of economic outcomes if such differences result from what is perceived to be a fair and meritocratic process. However, a society that assigns a limited role to government in reducing inequality of outcomes may find that the socio-economic status of individuals is heavily dependent on the circumstances that they inherit at birth and that segments of the population remain trapped in poverty from generation to generation. Concern over the consequences of such intergenerational poverty often leads to policies targeted on the poor and designed to redress such persistent inequalities. Increasing the level of intergenerational mobility has therefore been an important motivation underlying the evolution of the welfare state in modern societies. In addition, a more mobile society will tend to be more efficient, in that it allocates its more able citizens to higher-responsibility roles, irrespective of their parents' background.

Despite the obvious importance of intergenerational economic mobility to equity, efficiency and public policy, economists have only recently renewed their interest in the issue. During the last fifteen years, increased access to data has enabled multiple years of observations of the economic status of both parents and their offspring (see Solon, 2002 for a recent review). In addition, new methodological tools have allowed a clearer understanding of some key measurement issues in assessing the intergenerational transmission of socio-economic status. In the U.S., Europe and some less industrialized countries, an outpouring of studies has measured and compared the extent of social mobility across nations with different economic systems and values.

In *Generational Income Mobility*, Miles Corak has assembled an important collection of studies on the extent of income mobility in 15 countries, 10 of which are North American or European. The primary motivation for the volume is concern with the long-term implications for future economic growth and disparities in economic status of the very high and growing rates of child poverty in western industrialized economies. This concern is heightened by the growth in labor market inequalities in many of these western industrialized nations, and the associated growth in the returns to skills, education and ability. A secondary motivation is to take stock of where the research community now stands in terms of understanding the extent of generational mobility across nations, to identify and assess a variety of empirical issues in the measurement of generational mobility, and to illuminate recent methodological techniques for addressing these issues.

The theme of the book is timely, as many (especially Western European) nations are fundamentally rethinking the role of the welfare state. The volume provides a careful analysis of the degree to which socio-economic status is passed on between generations in the advanced countries, in a meaningful cross-national and cross-temporal perspective. The dozen essays included in *Generational Income Mobility* both provide an important appraisal of the current state of research, and add original findings to the existing literature. They are organized in a consistent framework that moves from theoretical issues to empirical approaches to the measurement and estimation of economic mobility, addressing in the process a number of methodological approaches for reliable estimation.

2. Methodological issues

Efforts to measure the intergenerational inheritance relationship have a long and distinguished history. Mostly undertaken by sociologists and demographers, and mostly concerning the U.S., a variety of methodological approaches have been taken in this literature. Understanding the implications of these approaches is crucial, and is one of the main contributions of the volume.

Much of the *economic* analysis of the relationship between the economic status of parents and children has used a very simple econometric framework which estimates single-number expressions for levels of mobility, in the form of degrees of association of the economic outcome of an individual with his/her family background. Reliable estimation of the generational relationship requires data on the long-run economic status of parents (usually, fathers) and their children (usually, sons) at the same stage in the life-cycle. Regressing the latter measure on the former, and observing the coefficient on the variable representing the father's economic status establishes the relationship.

If Y_{si} is a measure of the long-run economic status of sons and Y_{fi} the corresponding value for the fathers – then the intergenerational relationship can be specified as:

$$Y_{si} = \alpha + \beta Y_{fi} + \varepsilon_i \qquad (1)$$

When both measures of income are expressed as logs, the value of this coefficient (β) can be interpreted as the 'intergenerational income elasticity' – a statistic which serves as a summary measure of the degree of intergenerational persistence; (i.e. it is inversely related to the extent of generational economic mobility). While there are variations to this approach, the standard linear equation (1) is typically estimated by ordinary least squares (OLS). When the regression is of the log of sons' earnings (income) on the log of fathers' earnings (income), the elasticity β answers questions such as: if the father's income is 1 percent above the average in his generation, what percentage do we predict the son's income to be above the average in his own generation? If the β estimated by this approach is unity, parent's position in the income distribution will be precisely passed down to their children, and poverty begets poverty; if it is zero, children born to the poorest parents are as likely to be rich as they are to be poor.

β is related to another measure of intergenerational persistence, the intergenerational correlation coefficient (ρ). In general, the relationship between ρ and β is given by:

$$\rho = \beta \frac{\sigma_{y_f}}{\sigma_{y_s}}, \qquad (2)$$

so that the correlation is obtained by multiplying the elasticity β by the ratio of standard deviations of fathers' and sons' income. Note that β equals the intergenerational *correlation* coefficient ρ only in the case of fathers and sons having the same variance in incomes.

In a cross-national perspective, empirical findings on the summary β measures of "overall" mobility indicate the differences across countries in the extent to which parental economic status is related to their children's economic success. An example is the chapter by Grawe, who compares mobility across several countries based on a standardized methodological approach and comparable datasets, and performs a series of pairwise comparisons with the United States as the benchmark case. Among the four advanced countries he considers, Canada appears to be the most mobile society. The United Kingdom and United States stand out as being the least mobile societies, while Germany represents a sort of intermediate case. The article also extends the analysis to five developing countries, where lack of longitudinal data is addressed by application of the two-sample split instrumental variable estimation technique. He finds much intergenerational persistence in these countries, confirming the few prior results in the literature.

The finding of relatively low mobility in the United States is supported by most of the economics literature based on overall correlation or regression coefficients (Solon 2002), and contrasts with the common view of a high level of mobility in that country (commonly referred to as "American exceptionalism" in much of the political economy literature on attitudes towards inequality – see Osberg and Smeeding, 2006). These findings in the economics literature, where social status is measured in terms of income or earnings, contrast somewhat with sociological studies. Breen and Jonsson (2005) have reviewed the sociological research on social mobility (where social status is measured in terms of occupation or education) published since 1990, concluding that the United States appears to be very similar to the more open European countries in terms of educational attainment and social fluidity. According to Breen and Jonsson (2005), the most obvious reason for this divergence is that the correlation of education and/or occupation and income is higher in the United States than in the more equal European countries. That is, existing differences among occupational classes and/or educational levels translate into greater income differentials in America than in Europe.

While the β and ρ measures serve as summary measures of the overall intergenerational persistence within a population—the influence of *mean* father economic status on the economic status of the sons—they reveal little regarding the nature of the mobility process, and more detailed patterns of mobility. Because the summary measures implicitly assume a constant intergenerational elasticity across different points of the income distribution and/or across groups, they cannot reveal differences in mobility patterns by income levels or by other groups (e.g. by race or wealth). Hence, if we seek to understand the effect of marginal increases in parental income for specific groups, overall intergenerational elasticity estimates will be of little help; neither the poor nor the rich may be well described by the average measure. Moreover, comparing estimated elasticity values across countries provides little guidance for the conduct of policy. In order to sort out the effects of various interventions—for example, increasing access to higher education, providing increased targeted enriched child care services, or targeting health care services on the poor—on social mobility patterns, policymakers require deeper knowledge of underlying mobility mechanisms.

In order to explore differing patterns of mobility across the income distribution, Grawe focuses on the mobility among 'exceptional' children—those with achievements (i.e., earnings or income) at the very top or bottom of the distribution of children. He builds on an important point raised by Roemer in his chapter in the volume: even with identical opportunities, the intergenerational correlation of preferences for education and effort will result in higher average earnings among children from high earning families. Hence, a better conception of equal opportunity would compare children with similar (say, very high) success levels relative to children born to similar families. If opportunities were equal, the highest earning child from a lower income family would have earnings similar to that of a successful child from a high income family; the same return to schooling would be expected from children with the same preferences for education, irrespective of the income of their families. Using quantile regression methods to estimate the degree of intergenerational mobility at different levels of child outcomes, Grawe finds that above-average North American children (conditional on parent earnings) experience more mobility than those in Germany and the United Kindom, but that the opposite pattern among these countries holds for below-average children.

Grawe's findings are consistent with other research exploring non-linearities in in the transmission of economic status from parents to children (e.g. Eide and Showalter, 1999; Couch and Lillard, 1998; Corak and Heisz, 1999) which have used a range of empirical approaches, including transition matrices across deciles of the father's earnings distribution, kernel density models and quantile regression. All have found that intergenerational mobility varies substantially across the distribution of income. Comparisons by income groups may shed light on the channels through which economic status is perpetuated, emphasizing relevant elements that mean regression estimates are not able to reveal.

The chapters by Couch and Dunn and by Blanden, Goodman, Gregg, and Machin illustrate the variety of possible approaches to measuring intergenerational mobility across the distribution. Couch and Dunn use the standard estimation model of equation (1), supplemented by higher order terms in the father's earnings, to calculate the intergenerational earnings elasticity (β) for the US and for Germany across the income distribution. In both countries the earnings of children of rich parents are more closely related to the earnings of their fathers than those of children of poor parents.

Transition matrix techniques rely on discrete categorizations of social status (or income) and investigate the probabilities of transition among ordered classes or income quantiles. These transition probabilities reflect the likelihood of observing a move from status and/or quantile i^{th} to status and/or quantile j^{th} which can be seen as the probability of economic success conditional on being the child of poor or rich parents. Several measures of mobility can be computed from the information in a transition matrix, which can answer questions that cannot be addressed by mean regression measures. In particular, it enables a more full-bodied investigation of the detailed direction and patterns of mobility. Using transition matrices, Blanden et al. detect significant non-linear effects in the intergenerational relationship in the United Kingdom, finding evidence of a higher probability of upward mobility from lower earnings parents than downward mobility from top earnings parents.[1]

The analysis of the cross-national structure of patterns of mobility has been a main object of sociological studies which model mobility by accounting for movement between broadly defined social classes. This work is best represented by the cross-national research of Erikson and Goldthorpe (1992), who analyze generational movements across identifiable social groups.[2] In the current volume, only Ermisch and Francesconi have compared the approach of economists to generational mobility to a sociological approach, employing a measure of intergenerational persistence based on occupational prestige, the Hope-Goldthorpe index. The intergenerational mobility research agenda would benefit from more of such integrative approaches.

While the issue of differences in the intergenerational process across income groups is not ignored in the volume, the studies presented do not provide a comprehensive analysis of differing patterns of intergenerational mobility. A more full-blown study focusing on this issue could provide indicators of mobility for various groups, and could reveal these indicators in terms that are commensurate with each other. Comparative studies should also include group-specific measures. If the basic motivation for studying cross-national generational mobility is to understand differences in the prospect of escaping poverty across countries and thereby better inform public policy, allowing a more informed speculation on how different institutional settings influence levels and patterns of intergenerational mobility for this specific population group would seem to be crucial.

3. Investigating the underlying causes

[1] A more recent application of transition matrices to comparative study of generational mobility is Jantti et al. (2005), which is briefly discussed below.

[2] A different approach in the sociological literature – status attainment research – has focused on the decomposition of intergenerational correlations using intervening variables in structural equations models (see Hauser and Warren, 1997).

Some authors argue that the economic literature on mobility moves too quickly to descriptive estimation without guidance from formal theory. Following in this tradition, the volume by Corak is for the most part devoted to empirical concerns – two notable exceptions being the chapters by Solon and Roemer. Roemer makes precise the theoretical relationship between the widely used concept of equality of opportunity and the concept of generational mobility. His main message is that full equality of opportunity implies complete generational mobility only under very extreme and limiting circumstances—namely, that the effect of families on social connections, investments in children, genetic sources of ability, and on the formation of tastes, drive, and stamina should be broken—and that this view is inconsistent with prevailing sentiments in developed democratic societies.

Solon presents a simple model designed to be helpful in interpreting the evidence from this growing literature. The model, a modification of the early Becker-Tomes (1979) model, indicates clearly the factors that are related to the intergenerational income elasticity—the heritability of income-related traits [+], the efficacy of family (and other) investments in human capital [+], the earnings returns from human capital [+], and the progressivity of public investments in human capital [-]—and on which the variation in intergenerational mobility across time and place depends. It is a helpful framework for organizing thinking about generational mobility, and makes clear the conditions under which increases in earnings inequality imply a reduction in intergenerational mobility.

This framework can also highlight the potential influence of time-varying factors on the extent of intergenerational mobility within a society, and suggest the importance of exploring changes in mobility over time within a society. How do economic and policy changes over a period affect the impact of parental income on children's future income? In the current volume, Mayer and Lopoo explore this question in their examination of changes in mobility over time in the U.S. They analyse the levels of intergenerational mobility for cohorts of American children born between 1949 and 1965 using the PSID. While there is some evidence of a downward trend in U.S. mobility over this period, the trend in the income elasticity is not statistically significant. However, they find an increase in the intergenerational elasticity when considering only daughters. They argue that the increase in female labor force participation has reduced their mobility by augmenting the rate of return on parental investments.

Changes in mobility through time are also emphasized by two complementary chapters on the United Kingdom. Blanden et al. examine changes in income mobility between two British cohorts of children (those born in 1958 and in 1970)[3]. Their objective is to examine the effects of the rapid educational upgrading in the UK over the past few decades. They find lower mobility for the later cohort, leading them to conclude that the increased educational opportunities for British young people seems to have benefited more the children of higher-income parents than from the children of poorer parents. Ermisch and Francesoni offer an original analysis of the degree of intergenerational mobility in UK by using for the first time the British Household Panel

[3] They use the National Child Development Study (NCDS) for the early cohort, and the British Cohort Survey (BCS) for the later cohort.

Survey (BHPS). Contrary to the findings of Blanden et al., they observe a decline in the degree of intergenerational persistence over time – a discrepancy which is most probably due to the differences in the time spans considered and in the socioeconomic status measures used in the two studies.

Following in the effort to uncover the intergenerational "transmission channels", the chapter by Bjorklund et al. focus on a specific issue – whether summary measures of intergenerational mobility are affected by family structure. Taking advantage of very large administrative datasets from Finland, Norway and Sweden, they estimate log-earnings equations to analyze earnings differentials within groups of people who differ in three dimensions of family structure: number of children, birth order, and gender composition of the siblings. They find a significant effect of family size (with two-children families being the highest earnings group); birth order and gender composition differentials are smaller. However, when looking at siblings correlation as an indicator of the impact of childhood conditions (family background), the authors do not find a significant effect along any of the three dimensions of family structure.

The development of appropriate research designs to uncover causal effects in the transmission of economic status is an obvious research priority. The volume contributes to organizing thinking about such investigations emphasizing three directions for future research: examining changes across space and over time, and focusing on specific mechanisms. Such efforts to identify specific causal mechanisms (e.g., the role of education systems, the labor market returns to schooling, the provision of public services) can increase our understanding of the underlying reasons for observed cross-country and cross-temporal differences in the extent of intergenerational mobility

4. Policy

The final section of the volume examines policies oriented at promoting equality of opportunities. Specifically, the chapters by Page and Corak et al. track the intergenerational link between parent and child participation in public welfare and unemployment insurance programs. Their studies are motivated by the possibility that income transfer programs may have the unintended effect of deterring beneficiaries' children from active labor market participation. Page uses the PSID to study the link between parent's participation in welfare and that of their children. She finds the correlation in participation to be about 0.3, which is larger than that of prior studies. Corak et al. study the intergenerational dynamics in unemployment benefit participation in Canada and Sweden. Discrete time duration and random effects probit models are both designed to identify the effect of father's participation in the program on the time to first use of the program by sons. Parental program participation is found to shorten the time to first use by sons in Canada, but not in Sweden.

These results, together with the theoretical papers in the volume, suggest caution in assuming that income transfer policies are an effective way of breaking the generational cycle of poverty. If different groups follow different intergenerational processes, transferring money from one group to another need not imply convergence; since the two groups may be regressing to very different average incomes. Investing in children themselves might then be seen as a more effective policy action.[4]

The concluding paper of the volume by Esping-Andersen emphasizes investing in the future of children. In contrast to the prominence in the literature (and in some of the papers in the volume) on the effect of parental financial resources on children's attainments, Esping-Andersen highlights the effect of family transmitted 'cultural capital' and its central role in the development of children's cognitive abilities. He finds that parental financial investment in education is a far weaker link in explaining intergenerational transmission than is suggested by much of the intergenerational literature. If public policy is to be effective, he suggests, it must focus on early childhood and be structured to counter the lack of cultural capital conveyed by some families.[5]

Given limited public resources, this might entail a shift from higher education policies towards social institutions focusing on the family – which brings us to the issue of the efficacy of education systems. The extent to which education systems benefit the lowest classes differs across countries, and it has changed over time within countries. The chapters of the book do not engage in an explicit assessment of the role played by the education system in the mediation between parent and child outcomes. However, the efficacy of education systems—both across time and space—as a vehicle for social mobility is another issue that should be high on the research agenda.

5. Recent research on the topic

Our review would be incomplete if we did not at least mention some of the studies that have appeared since the publication of *Generational Income Mobility*.- particularly Bowles, Gintis and Osborne (2005), who have also edited a collection of essays from leading scholars in the field. Their volume differs from the present one for the emphasis on the role of a number of income-generating heterogeneous characteristics that are not usually considered to be factors of production (e.g. race, personality, health status etc.) in the intergenerational transmission of economic status.

Mazumder (2005) offers considerable new evidence on the level of overall intergenerational mobility in the United States. He emphasizes the fact that averaging multiple years of fathers' income/earnings substantially reduces the downward bias of the intergenerational elasticity.. He estimates an intergenerational elasticity of earnings in the order of 0.6 or higher when averaging earnings over the longest period (16 years). Note that the magnitudes of his lower estimates, based on five years averages, are consistent with the findings of the previous research, thus giving more credibility to his results. His results seem to confirm the relatively low rates of "overall" economic mobility in the United States compared to other advanced countries.

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[4] See a very recent paper by Corak (2006) for such an interpretation.

[5] The emphasis on early childhood investment in this paper is supported by recent work by Heckman and his coauthors (see Cunha, Heckman, Lochner, and Masterov, 2005)

The finding of American “exceptionalism” in the greater persistence of inequality from generation to generation is supported by recent results from a comparative study carried out by. Jantti et al. (2005), who apply similar sample restrictions and a common estimation method to analyse intergenerational earnings mobility in six countries: the United States, the United Kingdom, Denmark, Finland, Norway and Sweden. Their findings suggest statistically significant differences in the intergenerational earnings persistence across the six countries under study. The overall level of mobility is lowest in the US and highest in the Nordic countries. Contrary to most previous studies, the United Kingdom appears to resemble more closely the Nordic countries than the US. By constructing quintile group income mobility matrices for all six countries, the authors find that most of the cross-country differences in mobility outcomes is confined to the tails of the bivariate earnings distributions. While middle-class mobility appear to be similar across countries, the US is characterised by exceptionally high persistence in the lowest quintile, with sons of the poorest fathers being very likely to be “trapped” at the bottom of the income distribution.

6. Conclusion

Our discussion on *Generational Income Mobility* has been organized along three major research themes: (i) methodology; (ii) causal processes and (iii) policy guidance. It has emphasized the original findings in the volume and the volume’s contributions to the existing literature.

The methodological contributions associated with measurement and estimations are most valuable. Summary statistics derived from intergenerational regressions, while useful, may not be able to capture important social phenomena for the understanding of social mobility. A careful mix of multiple approaches is probably the best strategy for a more convincing account of the inheritance process.

However, the investigation of the causal processes governing the transmission of economic status across generations is less persuasive. Variations over time and across countries in the levels of overall mobility can in principle be exploited to infer the role of different policy and institutional settings. However, consistency among the available results is unknown and it is difficult to say whether differences in intergenerational income persistence reflect true differences in mobility or are driven by the specifics of each study design. The analysis of specific casual mechanisms is also challenging. Some of the relevant variables are still crudely measured (e.g. cultural capital, motivations, networks) and the role of many potentially important variables in the process (e.g. race, personality, health status) remains unmeasured and unexamined.

The existing literature says little regarding the role of different intervening mechanisms in the intergenerational process, yielding few insights for policymakers. However, the recommendation advanced in the volume regarding the focus on early child development is appealing. Policies that enable poor children to develop income-generating traits may help offset the variety of non-monetary advantages that richer parents are able to pass on to their children – which could effectively shift the role of the welfare state in the advanced countries from the traditional social insurance function to an institution promoting equality of opportunity.

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