1 Generational income mobility in North America and Europe: an introduction

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During the 1990s, a number of countries in both North America and Europe set explicit targets for the reduction of child poverty, including the United Kingdom, Ireland, and Canada. In the United Kingdom, the pledge, announced in 1999, was to eliminate child poverty in a generation; in Canada, the ambition, made clear a decade earlier, was to seek to do the same by the year 2000. And even in countries less explicit about their goals, reducing child poverty has been an important public policy concern. This, for example, is as true in the United States, where child poverty rates have historically been among the highest relative to other rich countries, as it is in Sweden, where they have been among the lowest. Clearly, this issue has a strong resonance in public policy discourse, and reflects a growing concern over the welfare of all children regardless of their place in the income distribution. But why should societies care more about children than any other group? One possible reason is that children have certain rights as citizens, but are dependent upon others for the defense of their rights. This may certainly be the case, but another reason – one often explicitly made by advocates – is instrumental: children should be thought of as investments in the future. This argument suggests that in the long run the productivity of the economy and the well-being of all citizens would be higher if the well-being of children were improved, and in particular if child poverty were reduced. UNICEF (2000), for example, clearly states this view. The premise is that if children are raised in a state of low income there will be long-term consequences,

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they will become less than they otherwise could be, indeed may grow up to be poor adults who in turn raise poor children.

This rationale has had increasing relevance because of the growing importance of human capital to economic growth, which in turn has created unprecedented pressures for more inequality in the rich countries. In fact, the move from resource extraction and manufacturing as the sources of prosperity, to service economies relying upon human capital has not only placed a premium on education and skills, it has also led in some countries to an outright decline in the earnings of the less skilled. Further, important institutions – including labor market regulations, family policy, unionization, and minimum wages – have changed dramatically. In some countries the pressures for more inequality are also associated with increased integration of product, capital, and labor markets influencing earnings and take-home pay. In all countries, however, individuals and families face a different and perhaps growing set of risks, and in some cases have experienced dramatic changes in wage rates, access to good jobs, and ultimately to their relative standing in the income distribution. Among others, Gottschalk and Smeeding (1997) and Katz and Autor (1999) have reviewed an explosion of research documenting changes in the economic returns to education and skills, the level and structure of wages, and the distribution of income. The latter argue that all rich countries seem to have been confronted with similar changes in the demand for labor that placed increasing importance on education and skills. Katz and Autor also argue that the consequences are very different according to variations in supply-side responses and differences in labor market institutions. In North America, but principally in the United States, the wage structure has changed tremendously, the gap between those in the top of the distribution and those in the bottom growing significantly since the late 1970s and early 1980s. But this is not primarily or uniquely a North American phenomenon: similar changes, while still significant, were much more muted in Canada, but they were just as dramatic in the United Kingdom and at the same time not as notable in other European economies (Katz and Autor 1999, Tables 9 and 10).

In short, the world in which children in the rich countries have been growing up is very different than it was a generation ago. In this context, it is quite reasonable to imagine that policy makers are concerned with their well-being. But just what is known about the long-term consequences of childhood experiences? What is the relationship between family background, particularly family income, and the long-term outcomes of children? How has this relationship changed over time, and how does it differ across countries? In particular, do increased globalization and higher returns to education lead to a weaker or a stronger tie between parental income and the long-term labor market success of children? It is very hard to find definitive answers to these questions, which all have to do with generational mobility. In contrast to the substantial and sustained efforts social scientists have made in documenting and trying to understand the nature of earnings inequality and particularly its relationship to changes in technology and globalization, there is markedly less research addressing generational income mobility.

"Generational mobility" refers to the relationship between the socio-economic status of parents – more particularly to their income – and the status and income their children will attain in adulthood. Solon (1999) illustrates the importance of this concept by imagining two societies with the same income distribution, the fraction of low-income families and the fraction of high-income families – however these terms are defined and measured – being exactly the same, as are any other measures of inequality one could devise. In the first society, individuals inherit their economic position entirely from their parents: children born to parents at the very bottom of the income distribution grow up to be adults at the very bottom of the income distribution; those born to parents at the top go on to have incomes placing them at the top. In this society there is no generational income mobility. Knowing the parents' place in the income distribution exactly predicts the position the child will occupy in the next generation's income distribution. In contrast, in the second society there is no relationship between family background and the adult outcomes of children. Those born to parents at the bottom of the income distribution are as likely to end up at the bottom, or as likely to end up at the top, as those born to parents at the top. In this society, there is complete generational income mobility. Knowing the parents' position in the income distribution offers no information about where the children will end up. At any point in time the two societies are equally unequal, but they differ very much in the character of their inequality. These are clearly polar cases, and one would not expect any advanced economy to be at either extreme, but it is easy to imagine that the consequences of income inequalities will be influenced by the situation of societies between them. It may not also be hard to imagine – and indeed Benabou and Ok (2001) offer a formal model – that individuals living in a society characterized by a good deal of generational income mobility may be much more tolerant of existing inequalities than those living in a society with very little generational mobility. They may believe that even if their efforts and skills are not fairly rewarded, their hopes for and investments in their children will be.

Understanding the extent of generational mobility is, in other words, a first step in understanding the consequences of income inequalities, as well as the extent of 'equality of opportunity.' As such, it is also important to understand the mechanisms that determine the degree of income mobility across the generations as they are related to a host of pressing policy concerns. Education policy – dealing with access to higher education but also with early childhood care – access to health care, and immigration policy are all motivated or informed by this issue. In fact, there is a well developed literature on the generational dynamics of social status, this topic being a mainstay of sociological research, as evidenced in the surveys by Erickson and Goldthorpe (2002, 1992), and by Treiman and Ganzeboom (1990). However, the aspects of generational dynamics dealing with income have been relatively less explored, and certainly less explored than studies of income inequalities at a point in time. Even so, important steps have been made, particularly since the early 1990s, with the work of Altonji and Dunn (1991), Solon (1992), and Zimmerman (1992), and subsequently by a significant number of other researchers as reviewed in, for example, Björklund and Jäntti (2000), Mulligan (1997, chapter 7), and Solon (1999). Researchers in this field now have a well-charted theoretical map of the terrain, as well as an appreciation of both the empirical challenges and the methods to deal with them. While there is a growing consensus on the broad sweep of the major empirical findings for some countries, it is fair to say that this literature stands at a crossroads. More and more results are being produced for more and more countries, but with different sorts of data, with variations in sometimes subtle methodological choices, and covering different time periods. As a result, it may be difficult to draw meaningful cross-national comparisons that shed light on the underlying causes and the role and importance of policy and institutional differences.

The research presented in this book contributes to this agenda. In this first chapter, I offer background on the theoretical and empirical methods used in this field, summarize the major findings of the book and their relationship to other aspects of the existing literature, and draw general lessons for future research and policy consideration. The objectives of collecting these essays under one cover are three in number: first, to offer analyses of the degree of generational income mobility in the rich countries and a framework for their interpretation both across time and space; second, to highlight empirical concerns in deriving and comparing these estimates as well as to illustrate new methods and data to deal with them; and finally, to highlight the scope and challenges of policy interventions and how they can make a difference to outcomes. To put it another way, collectively the contributors offer insights on the theory and interpretative framework for the study of generational income mobility, offer – along a number of different dimensions – methodological contributions associated with measurement and estimation, and, finally, offer findings that may help to inform policy discussions.

The story line of the chapters unfolds along these three themes. The analyses in Chapters 2 and 3 deal exclusively with the theory of generational mobility motivating the central estimation techniques. In different ways, both authors offer a structure for framing and interpreting the empirical results. The research in Chapter 2 focuses exclusively on an extension of the standard economic theory of generational income mobility – as presented in Becker and Tomes (1979) – to concerns dealing with changes through time and comparisons across space. It also offers an interpretation of the linear model of regression to the mean used in many of the subsequent chapters. The relationship between equality of opportunity and generational income mobility is formally discussed in Chapter 3 by a focus upon another mainstay in the empirical analysis of generational dynamics in both economics and sociology: the transition matrix. Chapter 4 marks the transition from theory to measurement. A number of innovative empirical techniques are used in order to implement the ideas of both of the preceding chapters, while at the same offering a series of cross-country comparisons of generational income mobility in developed and developing countries. The threads of many of the issues and findings discussed in Chapter 4 extend through the following four chapters of the book. These chapters, 5 through 8, offer a series of country studies examining the degree of generational income mobility in the United States, the United Kingdom, and Germany. In some cases this research emphasizes changes through time within the particular country, in others the focus is on measurement issues and the use of occupational status, while in others the findings from alternative empirical techniques are highlighted. In all cases these chapters begin to shift attention from the practical concerns of accurately measuring the degree of generational mobility, to the investigation of underlying causes. Chapters 9, 10, and 11 travel further along this line by highlighting the importance of the family in determining the degree and pattern of generational mobility, and by examining the generational consequences of social policy. In these chapters the focus is on the family in Norway, Sweden, and Finland, the welfare system in the United States, and unemployment insurance in Canada and Sweden. The final chapter summarizes the major messages of the book, but in a manner that attempts to extend the analyses and draw out more explicit directions for the conduct of policy promoting equality of opportunity.

1 Major findings

Taken as a whole, the chapters offer results and lessons of a general nature for the direction of future research and policy, particularly if the frame of reference is an international one. The major contributions might be summarized as follows. First, with respect to theory and a framework to guide empirical investigation, the analyses suggest that in an economy emphasizing human capital as the basis for sustained growth – one in which the economic returns to education have gone up – more challenges will be placed in the way of equality of opportunity. This happens in the basic model of generational mobility used by economists because rich parents have an increased opportunity to invest in their children, and the efficacy of these investments goes up. But this is not to say that governments are impotent. On the contrary, the design of policy can have an important role to play in tempering or reversing market forces. This said, deciphering the extent to which the degree of equal opportunity has been attained from the kinds of indicators generally proposed is not straightforward. Equality of opportunity requires a more subtle understanding of the influence of the family on child outcomes and the motivations that will ultimately govern adult behaviour. It should not be equated with complete generational mobility in incomes. A broader understanding of the social context is necessary and the indicators offered in this book are only a first step.

Second, with respect to methodological developments, the most significant way to advance knowledge in this field involves the development of appropriate data. Ideal data sets for the study of long-term processes, those playing out over the course of a generation or more, rarely exist. Researchers and practitioners often imagine the ideal data source as being a long-standing longitudinal survey that captures young people in their early years while still in the parental home, follows them through time, and eventually obtains information from them in adulthood. A survey of this sort must be based upon a representative sample of individuals and accurately measure both parental income but also the adult income of children. In addition, these income measures must represent the long-term economic well-being of the family and the resources available to invest in children, not simply annual income for a limited number of years. There are many challenges in bringing such an ideal to fruition: maintaining the representative nature of the sample through long periods of time and the entire income distribution, and obtaining accurate reporting of incomes are but two, to say nothing of the necessarily long lags between implementation and release dates. The advantages and limitations of a number of longitudinal surveys are illustrated in this book. In some cases the advantages of these data are clearly evident, but in other cases researchers are forced to tease results from rather small samples.

However, an important alternative worthy of more consideration is information from administrative sources. These data are collected as part of the conduct of a government program, like income taxation, and are linked through time into appropriate units of analysis. Many of the usual drawbacks of administrative data – that the concepts measured and the units of analysis do not correspond to theoretical constructs, that the sample is not representative, and that only a limited number of co-variates are available – are not always applicable to studies of generational income dynamics, or at least are not insurmountable. The development of these data continues to represent an important way forward in the advancement of knowledge, and they are used advantageously in the studies dealing with the Nordic countries and Canada in the pages that follow. These chapters illustrate the advantages of administrative data, which can offer samples measured in the tens – if not hundreds – of thousands, contain information on incomes orders of magnitudes more accurate than that available from household surveys, and may contain a surprising amount of supplementary information useful for focusing an analysis of income correlations or transition matrices on finely defined population groups. It is decades since Atkinson, Maynard, and Trinder (1983, pp. 20–23) outlined the difficulties of obtaining similar data for the United Kingdom, yet for many countries their lament continues to remain appropriate. Some of the research in the following chapters suggests that the development of administrative data for research purposes and their dissemination in a way that respects issues of confidentiality and privacy has offered an extremely cost- and time-effective way of promoting knowledge on generational issues in a number of countries. These countries should stand as examples for future work in others.

All of this said, longitudinal data, from either survey or administrative sources, are not the *sine qua non* of generational research. Researchers, including the contributors to this book, have made creative use of empirical methods to overcome limitations in the quality of available data. The most notable illustration in the following chapters involves the use of cross-sectional surveys containing retrospective information. Obtaining information from a sample of adults on the incomes their parents earned decades ago in the past is fraught with difficulties and generally avoided by statistical agencies. It is, however, much easier to obtain retrospective information on parental education and occupation; information that is often used in sociology and from which estimates of parental income can be derived using instrumental variables or two sample split instrumental variables. This does not come without a cost in terms of potentially biased results, but the nature and direction of these biases are understood and the method opens up the possibility of examining the degree of generational income mobility in a comparable way when longitudinal data are not available. Including retrospective information of this sort in more data sets would offer a cost-effective way of more fully understanding generational dynamics in North America and Europe, and especially in developing countries.

There are a number of illustrations of these and other empirical techniques in the following chapters, but the major implications do not deal with methodological developments in their own right. Rather, new methods – both with respect to empirical techniques and with respect to data development – are used to obtain new and hopefully robust results. Accordingly, the third contribution has to do with the empirical findings, particularly in a cross-national context. Principal among these is that the United States and Britain appear to stand out as the least mobile societies among those rich countries under study. In the United States and the United Kingdom at least 40 percent of the economic advantage high-income parents have over low-income parents is passed on to the next generation. The Nordic countries and Canada seem to be the most mobile societies, with less than 20 percent of an income advantage being passed on between parent and child. Germany resembles the United States and the United Kingdom more closely than it does the other countries. The experience in the United States and the United Kingdom also illustrates that the degree of generational income mobility is not immutable. Progressive education policies have increased mobility across the generations in the United States during the post-war period, while changes to the schooling system in the United Kingdom dating back to the 1980s have had the opposite effect.

Further, the underlying processes may differ across the income distribution, which highlights the need for a more subtle understanding of the causal factors at work. This is as true within North American and European countries as it is between them and countries with lower levels of per capita income. In North America, children with above average potential experience more generational mobility than their European counterparts, while below average children experience less. Further, the extent of the differences between the rich countries may well be important, but it pales in significance when a comparison is made with poorer countries. In the several developing countries studied there appears to be significantly less generational mobility and in at least one case possibly none at all. The causes of these differences are beyond the scope of the present analysis, but surely have to do with the structure of property rights, the operation of labor markets, and the nature of, and access to, schooling at all levels. As such, policy makers dealing with developing countries need to be conscious not only of combating poverty at any point in time, but with structural changes that will have generational consequences.

Causal concerns are more explicitly raised in the analyses of some of the rich countries. A deeper understanding of the processes determining generational mobility will follow from a focus on the family and the allocation of resources within the family – as opposed to neighborhood influences – and on the interaction between the family and social policy. Even in the Nordic countries, where the degree of generational mobility is the greatest, there are important differences in outcomes according to family size. Children raised in larger families are more likely to have inferior earnings outcomes than their counterparts in smaller families. Further, transfer programs may have unintended generational consequences. The design of income transfers and social insurance, as illustrated in the differences between the unemployment insurance programs in Sweden and Canada, may influence the likelihood that children will also rely on transfer payments in their turn as adults. More broadly, this suggests that future research needs to understand not just how much money the family has but also how these funds are obtained. It also suggests that future directions for social policy may not be so much in the area of further increasing access to higher education, but on the circumstances much earlier in life that put individuals in the fortunate situation of being able to choose whether to continue on to higher education. In particular, this refers to early childhood education and investment that may have an important non-monetary dimension. Parenting style and the social resources available to parents will become an increasingly important concern if rich countries are to continue to promote an agenda of equality of opportunity, and indeed to counter some of the likely market tendencies that may erode or challenge the degree they have attained.

2 Theory and an empirical framework

Much of economic analysis uses a simple empirical model to measure generational income mobility. This is usually done in percentage, or equivalently logarithmic terms, and refers to the fraction of income differences between parents that on average is observed among their children in adulthood. For example, if the incomes of two sets of parents differ by 50 percent and the incomes of their children differ by 30 percent, the generational persistence of incomes is said to be 60 percent since six-tenths of the difference in parental income is passed on to the children. Equivalently if *Y* represents permanent income and *t* is an index of generations, this way of thinking can be captured by the following expression:

$$ln\ Y_{i,t} = \alpha + \beta\ ln\ Y_{i,t-1} + \varepsilon_{i,t} \tag{1.1}$$

In this equation the adult income (in natural logarithms) of family *i*'s child, $ln\ Y_{i,t}$, is expressed as the average adult income of the children