

Chapter 1

Advantage in Comparative Perspective

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OF ALL THE potential consequences of rising economic inequality, none is more worrisome, or more difficult to study, than the possibility that rising inequality will have the long-term effect of reducing equality of opportunity and intergenerational mobility. The reasoning underlying this worry is straightforward. Families clearly have a strong interest in investing in the future social and economic well-being of their children. Although some of these investments may not require financial resources, many others obviously do—among them, paying for quality child care and early childhood education, buying books and computers, living in higher-priced neighborhoods with access to good public schools, assisting with college costs, and providing support for young adults to help them get started in their independent economic lives once their education is completed. As financial resources have become more unequal in a number of countries over the last three decades, the differences in the capacities of rich and poor families to invest in their children also have become more unequal. This change is occurring in a period when relatively more educational investment is needed to meet ongoing labor market changes (Goldin and Katz 2008). It follows that unless these inequities are offset by public policies designed to moderate their effects, the children of the rich will have a relatively better chance of staying rich in the future, and the children of the poor will have less chance of escaping poverty or low socioeconomic status (SES).

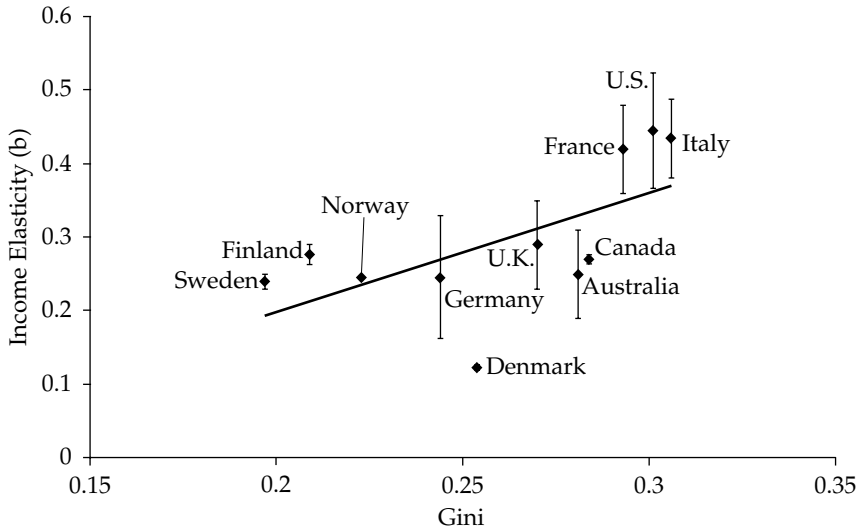
Investments in children are even broader than this discussion suggests. An *investment* is a diversion of current resources, such as time or money, from use for immediate consumption of goods and services we value, to activities that pay off in the future in terms of additional resources, including those that benefit our children. A prime example is of course

education, but many activities that parents carry out on behalf of their children are investments in a similar sense. Some of them may involve a low monetary cost, but require an investment of time, such as undertaking many different types of activities with children (for example, teaching them to swim or reading to them). In engaging in such activities, parents increase their own enjoyment and current well-being as well as benefitting their children in later life. Other child-related activities can be quite costly, such as paying university tuition. And some activities may benefit children in a different dimension than the initial investment. For example, in addition to aiding their cognitive development, parents and schools help socialize children, teach them to behave courteously, provide motivations, and work in a variety of ways to aid their socioemotional development. These traits may not only pay off in the social and behavioral dimension, but ready them for school so that their cognitive development is enhanced as well. Social and behavioral traits may also be more important for future earnings and jobs as employers may highly value such traits. In economic parlance, there is complementarity between investments in the social (socioemotional) and cognitive dimensions.

Further, all such investments take place in institutional contexts that provide leeway for parents and governments to influence how effective such investments may be. For instance, universal early childhood education for all children might be especially beneficial for the lowest-SES children if all such programs had comparable resources. However, to the extent that the quality of preschools and teachers is subject to neighborhood effects as in elementary and secondary schooling in many nations, low-SES children are likely to be excluded from the best preschools and thereby lessen the equalizing effect of early childhood education. Other childhood investments may also be subject to institutional constraints, nepotism, ability to pay and co-funding, including tuition for colleges and universities (for example, on U.S.-Canadian differences in financial aid and tertiary school completion, see Belley, Frenette, and Lochner 2010).

Although there is evidence that parental investments in children have become more unequal over the past thirty years in some countries (Kaushal, Magnuson, and Waldfogel 2011), analysis of the best multi-generational data available in the United States (from the Panel Study of Income Dynamics) does not show a clear decline in intergenerational mobility between children born in the 1950s and those born in the late 1970s, just before inequality began to rise (Lee and Solon 2009). Part of the problem may be measurement error. The individuals in the cohort born during the period of rising inequality are only in their early thirties, still a bit too young to provide reliable estimates of lifetime income. Another possibility is that the gradual, thirty-year rise in inequality in the United States and smaller increases elsewhere are still too small

Figure 1.1 Estimates of Intergenerational Income Elasticities for Fathers and Sons, Early 1980s



Source: Authors' calculations based on data from Bjorklund and Jantti (2009, figure 20.1).

to have the types of negative effects suggested by increased economic inequality.

Of course, it is also possible that the prediction that high inequality leads to low mobility is simply wrong. But one compelling reason to doubt this is the recent discovery that the predicted relationship does show up in cross-national comparisons. Figure 1.1 presents the relationship between income inequality (measured by the Gini coefficient for the parents' generation) and the intergenerational income elasticity—a measure of the strength of the relationship between the incomes of parents and the incomes of their grown children. Mobility is measured as the inverse of the elasticity in figure 1.1, hence the lower the elasticity the greater the mobility. Indeed, most measures of mobility are actually measures of persistence of the younger generation's place in the order of outcomes compared to their parents. So when elasticities are high, the parent–adult child relationship is strongest. This plot includes eleven industrialized countries where both measures are now available and demonstrates wide variance in intergenerational mobility across those countries (Björklund and Jantti 2009).

As figure 1.1 shows, the relationship between inequality and intergenerational elasticity is moderately positive. Higher levels of inequality

are associated with lower rates of mobility—the rank order correlation is 0.62. Although we cannot lean too heavily on a regression based on only eleven data points, there are multiple estimates of both inequality and mobility rates in most of these nations, adding credence to the estimates shown in figure 1.1 (Blanden 2011). What is most interesting here is that these countries seem to vary a great deal in the degree to which they manage to attenuate the estimated relationship between inequality and intergenerational mobility. Some countries lie alongside the least squares regression line indicating levels of mobility close to what their levels of inequality might predict (for example, Norway, Germany, and the United Kingdom). Sweden and Finland are low inequality countries that lie slightly above the regression line, with slightly less mobility than their levels of inequality predict. Denmark shows intermediate levels of inequality but stands out with much higher rates of mobility than expected. Canada and Australia tend to fall between intermediate and high levels of inequality, but like Denmark, also show higher levels of mobility than expected. A final group of countries (Italy, the United States, and France) generally have high levels of inequality and lower levels of intergenerational mobility than one would predict.

If this pattern is real, and not just a matter of random variation around the plotted regression line, it suggests that there may be significant differences in the types and effectiveness of public and private investments and institutions that different countries deploy in their efforts to equalize opportunities across the income distribution. These differences may be due to institutional design. For example, some countries may intervene earlier in the lives of disadvantaged individuals, and early intervention may be particularly effective, as many believe (Knudsen et al. 2006). Or, countries may differ in the sheer size of their social welfare expenditures or in the distribution of expenditures across various areas of social welfare, such as health or education. This could make a difference if expenditures in some areas are more effective than others in promoting mobility, one of the questions this book attempts to address. Finally, the effectiveness of institutions designed to promote mobility may depend in part on the amount of inequality they have to cope with. For example, a universal preschool program may be effective in countries where differences in the private resources available to families are modest. But where family differences are great, they may swamp even a well-designed, well-funded preschool program.

Inequality has increased over time relative to the levels of income inequality shown in figure 1.1. This is the case in all the countries shown here, except for France where it has fallen over the past twenty-five years (Smeeding, Erikson, and Jäntti 2011; Brandolini and Smeeding 2009, as shown in chapter 14, this volume). Most countries investigated here have higher inequality now than at any time in the past, but the rank order

of countries by levels of income inequality is about the same now as it was for prior generations. The amount of income available to low income families with children is also important in determining life chances as high child poverty means less parental economic resources. Child poverty rates for these countries in the most recent Luxemburg Income Study (LIS) year generally follow the same patterns as do current measures of inequality, where low-inequality nations in Scandinavia have low child poverty rates (5 percent or below at half the median income poverty level), middle-inequality central European countries have poverty rates of 10 to 11 percent, Australia and the United Kingdom are at about 14 percent and the highest rates in Canada, Italy, and the United States are 17 percent or above.¹ This makes it all the more interesting to know how countries like Canada with both above average inequality and above average child poverty rates do so well on mobility outcomes. If the ability to invest more in children increases among the rich and declines among the poor as inequalities increase, greater inequality may lead to even less mobility. If intergenerational mobility is driven by cumulative forces of advantage and disadvantage over the life course, mobility outcomes may become worse for the current generation of children because of increasingly higher inequality (DiPrete and Eirich 2006). These effects might come about in two ways.

First, if the children of higher-SES parents do well in school, they are more likely to attend and graduate from college, are better able to rely on parental help as they establish careers, and ultimately, will earn more income as the wage distribution rewards higher-skilled workers with better earnings. This pattern of development is a form of “cumulative advantage” where success begets more success within generations. But there is also the possibility that greater inequality increases the SES gradient from one generation to the next, and if so, this process of cumulative advantage might make an even larger difference across generations. Patterns of cumulative advantage within generations can be established only if SES-related differences are followed across children’s lives. To establish between-generation cumulative advantage requires observations from a minimum of three generations. These requirements are generally beyond currently available data, but offer an appealing framework for how one might expect growing economic inequality to affect intergenerational mobility.

In this volume, we report the results of a coordinated set of mobility studies across ten countries with different levels of inequality. It is a first step toward understanding how and why mobility is sustained at higher rates in some countries than in others. The conceptual framework for making cross-national comparisons is based on a life-course approach, and is detailed in the description that follows. We expect that the life-course approach in a comparative perspective will allow us to see where

divergences in outcomes between high-and low-SES children occur in the life cycle and how those differences are related to policies, processes, and institutions operating at various life-course stages.

In most countries where measures are available, there is a moderate to large positive correlation between parental and adult offspring socioeconomic status, and the strength of this association varies across countries (Björklund and Jantti 2009). But we know relatively little about how advantage is transmitted from parent to child, how that transmission varies across the life course, whether it accumulates within generations, and what structural arrangements mediate that transmission. A major focus of discussion in the United States in recent years has been the discovery of differences in cognitive and socioemotional (noncognitive) outcomes during early childhood that are positively correlated with parents' socioeconomic status.² However, there is evidence from a number of other countries that intermediate outcomes after early childhood also have a steep socioeconomic gradient.

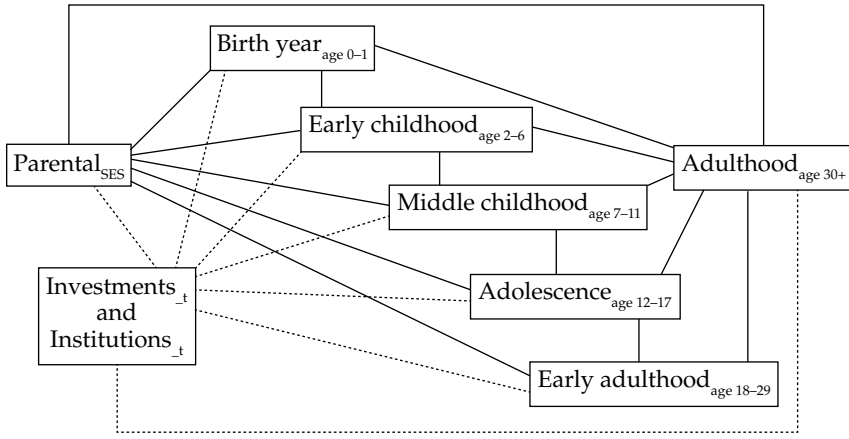
A Model of Intergenerational Mobility

The conceptual model shown in figure 1.2 describes the different life points in childhood and young adulthood that are crucial to understanding how advantage is transmitted from parents to their children. In figure 1.2 we begin with parents' socioeconomic status ($Parental_{SES}$). Each subsequent box refers to child outcomes at different stages over the child's life course: the birth year (up to one year, or C_0), early childhood (ages two through six, or C_1), middle childhood (ages seven through eleven, or C_2), adolescence (ages twelve through seventeen, or C_3), early adulthood (ages eighteen through twenty-nine, or C_4), and adulthood (ages thirty-plus, or O_A). This same terminology, sometimes using the C stages, is common to all chapters in this volume.

In this model, it may turn out that some ages are particularly important in understanding how advantage is transmitted. One of these, for example, may be around age eleven in middle childhood, when children move from primary to secondary school in many countries. Another may be at age seventeen or eighteen, as adolescents make the transition to early adulthood. Throughout this model, a host of different mobility-relevant skills, attributes, achievements and outcomes are measured. These might include differences in outcomes as varied as birth weights or initial health status, cognitive abilities, educational achievement or attainments, or socioemotional and behavioral outcomes.

Next, and displayed under $Parental_{SES}$ in the model, $Investments_{-t}$ and $Institutions_{-t}$ are the various public and private investments and institutional contexts that may influence or contribute to differences at each life-course stage. Investments might include public programs such as

Figure 1.2 Intergenerational Transmission of Advantage by Life Stage



Source: Authors' figure.

Notes: Parental socioeconomic variables and measures: education, income, earnings, SES, occupation, wealth, employment; childhood and early adulthood measures: educational attainment, cognitive measures, socioemotional behavior, employment and labor market, health-physical; investments and institutions assumed to be different public and private investments and institutions contributing to children's development that vary by country; adulthood measures: child SES, income, education, employment, labor market attachment.

day care, universal early education, afterschool or summer programs, or access to health care or health programs, among others. The institutional contexts might refer to processes such as how schools are organized, the presence of educational tracking, or differences in private costs of attending college.

The final stage in the model, adulthood (ages thirty-plus, or O_A), refers to offspring outcomes as an adult that are likely to reflect the combination of investments, opportunities, and choices (for example, marriage) that occur through the life course. These might include such characteristics as adult SES, education, occupation, household income, labor market attachment, earnings, or other advantages and disadvantages in the labor market. For instance, labor market institutions and macro-economic factors (or $Institutions_t$) might provide differential returns to the same credentials across countries and thereby independently affect O_A . Looking at one important component of SES, individual earnings, Jo Blanden and her colleagues (2011) show that differences in intergenerational earnings outcomes between the United States and the United Kingdom depend most heavily on labor market returns to education. Because the earnings distributions are more unequal in the United States, particularly with

much higher rewards among the more highly educated, young adults with the same level of university attainments will do better in terms of earnings in the United States compared to the United Kingdom. It follows that heterogeneity in outcomes across generations within countries will depend on processes that we cannot fully capture in our implementation of the model due to data limitations and poor information about institutional contexts across nations.

It is implicit in figure 1.2 that parental SES may be associated with any stage or outcome of the development process, and any outcome at an earlier life stage may be related to later outcomes all the way up to adulthood. For example, parental education or income ($Parental_{SES}$) may be related to birth weights in the birth year, or to test scores and socio-emotional behavior in early childhood, which, in turn, may be associated with various outcomes at any of the subsequent developmental stages up to adulthood. Ultimately, offspring adult socioeconomic status, O_A , is the outcome of a whole series of parental and other inputs from the birth year on, including the formation of partnerships. This schema is consistent with Flavio Cunha and James Heckman's (2007, 2009) dynamic multi-stage model of skill development, in which intermediate outcomes at each stage not only affect subsequent outcomes but may also affect the productivity of inputs at subsequent stages. For example, children who were not read to as preschoolers may find it more difficult to learn to read at school. This initial disadvantage can then be reinforced if a poor secondary education limits one's choices and opportunities in terms of preparation for or success in higher education. On the other hand, if this same child were fortunate enough to attend a resource-rich secondary school that specializes in college preparedness, this may offset some of the initial disadvantage, and do a better job of connecting schooling and improving performance between these two levels. The entire process may therefore allow for cumulative advantages within cohorts.

Making Use of a Cross-National Comparative Approach

To generate cross-national evidence on how socioeconomic advantage is likely to be transmitted over the life course, this project consists of sixteen studies that examine for a number of different countries the ways in which different child outcomes vary with parental socioeconomic status at multiple stages of the life course. In some studies, the investigators consider how outcomes at one stage are associated with outcomes at previous stages. And where possible, we look at how these intermediate associations contribute to the correlation between parent and adult-child outcomes (for example, earnings or education). It was clear from the outset of the project that there are a number of national and international datasets,

both cross-sectional and longitudinal, which include comparable tests of cognitive ability, health and academic achievement that tap what are thought to be mobility-relevant skills and attributes at various points during an individual's development. Some of these data sources also include information on socioemotional skills and behavioral traits that may be associated with subsequent mobility. Using data like these, plus administrative data in countries where it is available, we undertake a small number of strategically selected cross-national and national studies to estimate correlations of childhood outcomes (at various points along the life course) with parental income, education, or other measures of parental socioeconomic status.

With these results it should then be possible to compare countries in terms of the effectiveness of their efforts to promote mobility at various levels of individual development. So, for example, if a country shows relatively low correlations between parental SES and cognitive skills at the preschool level (a relatively flat SES gradient), it would be important to find out what kinds of investments in families and young children that country is making to narrow the gap between the children of the poor and the children of the rich. Other countries might exhibit higher correlations between parental SES and children's early test scores, but show lower correlations between SES and cognitive skills at later stages of development—perhaps because their primary or secondary educational institutions permit the children of the poor to have second-chance opportunities, allowing some degree of catch-up. Alternatively, there may be countries with institutional arrangements that effectively freeze, or perhaps even exacerbate, inequalities in early cognitive skills by placing students with disparate test scores on different academic tracks, or by placing poor students into remedial education or low-quality schools that are ineffective in enhancing the skills necessary for mobility. In sum, a set of comparably designed national studies of this type can reveal how family resources are correlated with individual outcomes at various points during the early life course, and may be able to shed light on the structural differences that moderate intergenerational mobility in different ways in different countries. Another advantage of the cross-national perspective is that genetic transmission in the outcome (for example, cognitive ability) should be the same across countries, and so cross-country differences should reflect different environments, policy and otherwise.

We are especially interested in cross-national comparisons that might prove to be particularly informative. Figure 1.1 suggests that it might be especially revealing to consider comparisons between Germany and Denmark, where both show Gini coefficients of about 0.25 in the father's generation, but in which the intergenerational income elasticity estimate in Germany (0.25) is double that in Denmark (0.12). Other strategic comparisons might include one or more of the high inequality–low mobility

countries (the United States, Italy, and France) with similar inequality but higher mobility countries like Canada or Australia, or comparisons of estimates from Canada or Australia with those generated for Denmark. It is also important to keep in mind the longitudinal nature of the life-cycle model. For example, comparisons between Germany and Denmark may yield similar estimates at one life stage, but fundamentally different estimates at a subsequent point later in the life course. Understanding where and when across different life stages such differences emerge might provide evidence about the public investments that are especially critical for later stages in life.

Research Questions

The model of intergenerational transmission described in figure 1.2 engenders a number of important research questions, and the investigators in this project employed twenty-nine datasets across ten countries to shed light on some of these questions about intergenerational mobility. We draw on the empirical evidence generated by those studies to specifically address four main questions motivated by that model. Even with such a broad spectrum of data, certain constraints existed and we could not make all the comparisons we hoped to achieve.³ Nevertheless, the breadth and diversity of the data employed has provided us with solid insights into our core questions.

Do differences by parental SES emerge, and if so, when?

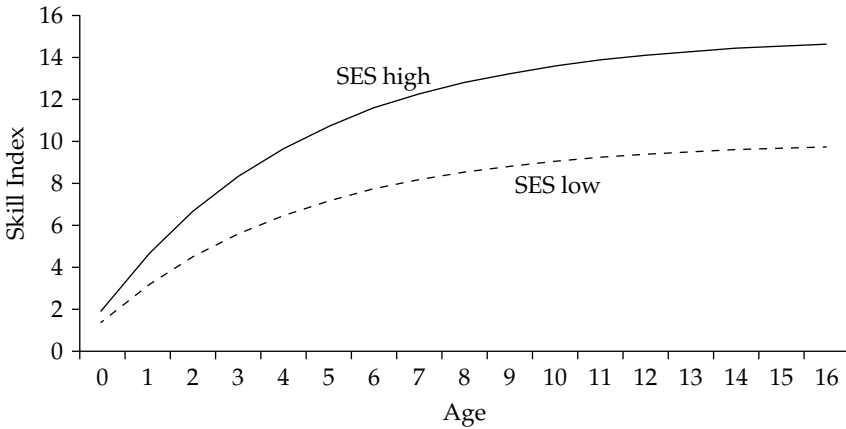
Do the differences change over the life course?

How do the childhood differences contribute to intergenerational mobility?

How do answers to these questions vary among countries?

The first three questions can be more formally addressed by a model in which changes in the gaps between SES groups in skills or achievements (for example, cognitive test scores) might occur over childhood and into adulthood. The online appendix to this chapter provides an example based on a simple value-added model of the evolution of skills as the child ages (as in Todd and Wolpin 2003, 2007).⁴ It relates skills at a given age or life stage to investments or actions undertaken by families and schools to improve skills at that age or life stage and to the level of skills achieved previously. There may be depreciation in skills over time, making it necessary to continue to invest sufficiently at each age in order to maintain skills. Whether skill differentials by parents' SES widen, narrow, or remain stable as the child ages depends on the pattern of investment at each age in each SES group and the degree to which skills depreciate without investments.

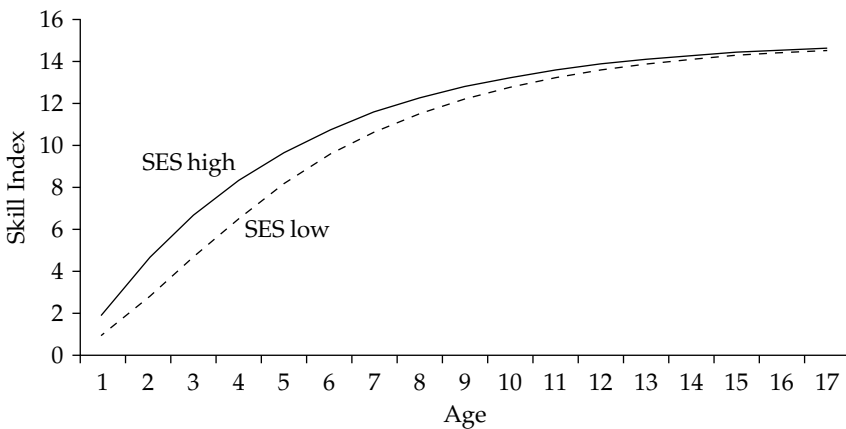
Figure 1.3 SES Skill Differentials, Fanning Out



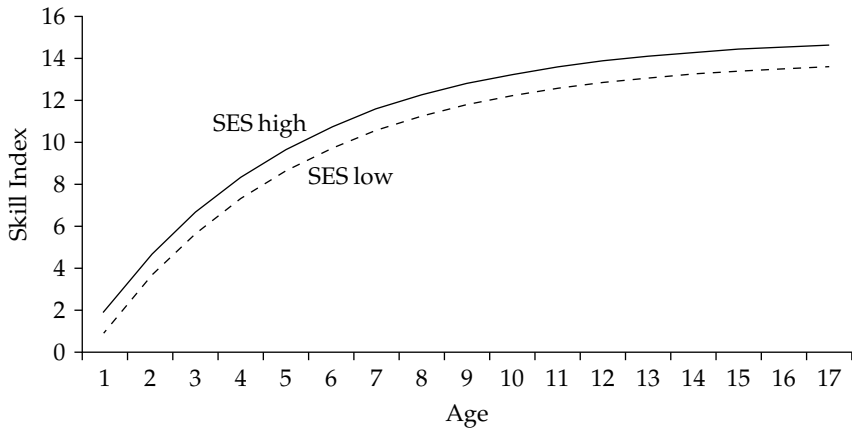
Source: Authors' model.

As children pass into and through school, the SES investment differential may alter. Figures 1.3 through 1.5 illustrate how absolute SES skill differentials might change as children age. For instance, it is possible that differentials diverge systematically as a child moves to adulthood because of cumulative advantage or disadvantage within a generation, causing the investment differential to widen. It is also possible that children from more affluent families experience less depreciation because

Figure 1.4 SES Skill Differentials, Convergence



Source: Authors' model.

Figure 1.5 SES Skill Differentials, Constant Gap

Source: Authors' model.

of environmental differences or dinner conversation or school quality (see figure 1.3). Alternatively, equalizing schools (or other institutions or investments) may cause the SES investment differential to narrow as schools substitute more for families in skill acquisition (see figure 1.4). Finally, it may be that absolute SES differentials remain constant over time. As an example, if processes of cumulative advantage are in place, schools may act to simply offset continued gains in advantage, effectively keeping the absolute differences stable over time (see figure 1.5). Because of difficulties in the comparability of outcome measures over time, it is often necessary to make comparisons in standardised or relative SES differentials—that is, adjusting for changing means and variances of the measures over ages. Chapter 10 in this volume compares these two approaches to the evolution of SES differentials over childhood. Neither approach is inherently superior to the other.

The final two questions addressing how childhood differences contribute to intergenerational mobility and how differences in the SES gradients vary among countries are answered in two different ways throughout the rest of the volume. First, a meta-study, in which all participating authors have provided comparative SES gradients for all countries and measures for which data is available, is carried out in chapter 2 (and described in more detail shortly). Second, the individual chapters in this volume provide richer but more limited evidence across a set of countries for specific stages of the child's life course. Both of these allow us to directly draw some conclusions in the penultimate chapter.

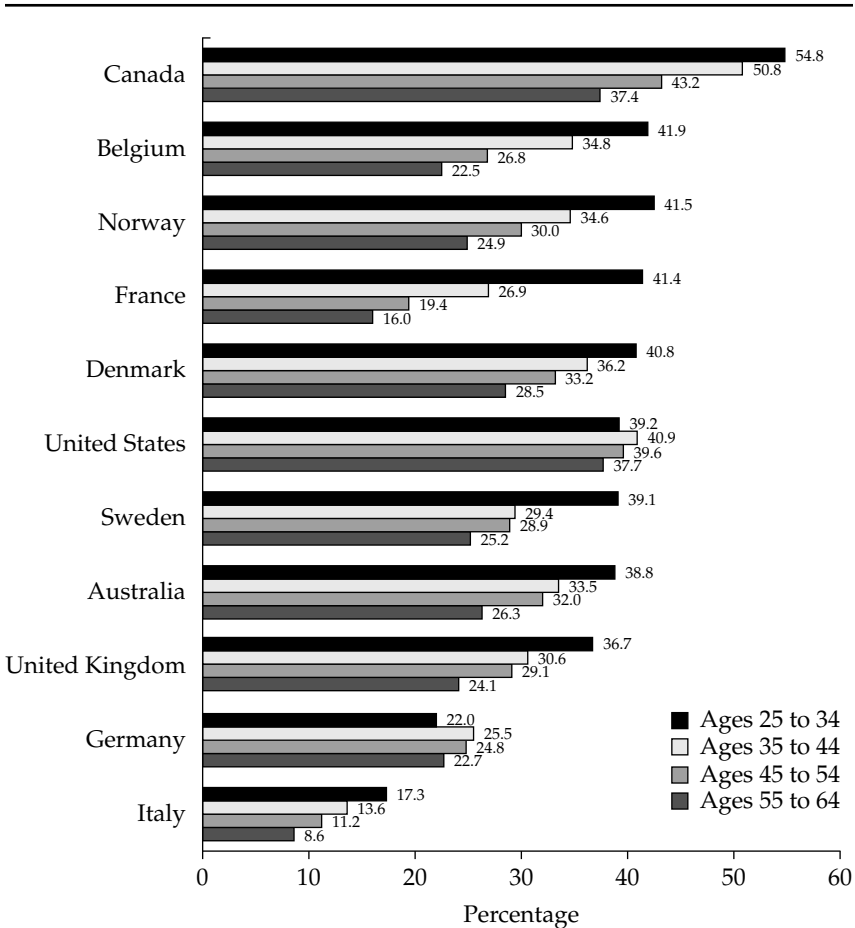
In most chapters and in the overall conclusions, we do not distinguish between the sexes in studying the evolution of the SES gradients over the life course. Absence of analysis of such differences does not imply that they are not important, but they are not the focus of this study.

Measuring Parents' SES

To harmonize parental SES, we mainly employ a four-category education ranking for parents' education using the more highly educated of the two parents (or the education of single parents—some authors will also use income, earnings, or occupation). We prefer education as our measure of SES because it is a measure of permanent income and because people with different educational qualifications face different labor markets with different rewards and opportunities and make different career-path choices (artist or banker). Education is positively correlated with parental age at the child's birth and in many countries with stability of marriage as well. More educated parents also have fewer children and do so later in life (Moynihan, Smeeding, and Rainwater 2004). Education is also the indicator of parental SES that is most commonly available for all of the countries examined here, is the most malleable in terms of being made comparable across countries, and is usually constant over the child's life.⁵

For purposes of comparability, education is coded using the International Standard Classification of Education (ISCED) (UNESCO 2006). We distinguish four groups: low (ISCED 0–2, for example, high school dropouts in the United States), medium (ISCED 3–4, for example, a high school diploma in the United States), medium-high (ISCED 5b, higher education below degree level), and high (ISCED 5a–6, degree level or higher). Some of the papers use other more aggregated or disaggregated educational attainment measures, but in the chapter that follows we use this categorization of parents' education to study the gradients that emerge.

This rough classification is for one point in time, and will miss the trends in attainment across nations. Moreover, as percentages are observed at different years, the underlying measures of cross-national educational inequality may differ. Figure 1.6 presents one such trend—in postsecondary education across nations. In all but two countries, Germany and the United States, the pattern is for increasing educational attainment by cohort at the postsecondary school level. Some of the earlier generations who are now forty-five and older will be the parents in our studies, but in studies that focus more on early childhood measures, they will look more like the two younger cohorts—ages up to twenty-four or twenty-five through thirty-four. But the U.S. difference is especially striking in that they were the world leader in educational attainment in the oldest generation and are now experiencing

Figure 1.6 Adults with Associate Degree or Higher

Source: Authors' calculations based on data from OECD (2008).

flat attainment of postsecondary degrees while all other nations, save Germany, are rapidly advancing.

There are clearly other ways to characterize family background. Some of the chapters use differences in parents' income to complement the analysis based on parents' highest education (for example, chapter 4, this volume). Another possibility is to describe family background by parents' social class or occupational group, which is very common in the sociology literature on intergenerational mobility. Yet another approach is to combine a number of indicators to assess the family's SES. For instance, Alissa Goodman and her colleagues (2011) construct a measure of socio-

economic position based on parents' income, social class, housing tenure, and a self-reported measure of financial difficulties. The measure is used in the analysis of children's cognitive attainments in four British data sets. In our view, no measure is ideal, and the strength of family background in distinguishing outcomes of children is often qualitatively the same with the different measures.

Contributions of the Book

In what ways does this volume contribute to our understanding of the emergence of cross-country differences in the association of adult outcomes, such as earnings, with parents' socioeconomic position? This book is part of an integrated effort to better understand the mechanisms that produce the intergenerational transmission of economic and social persistence. Markus Jäntti and his colleagues (2006), in a carefully done study using harmonized panel datasets, suggest large differences across nations in the persistence of intergenerational mobility. In particular, the study notes a probability that someone born in the lowest parental income quintile group in the United States would end up there as an adult is twice as high compared with any other country examined. This finding led the leaders of this project and editors of this volume to ask if we could assess the mechanisms that produced this outcome. As a precursor to this work, we recently published a volume showing the state of the literature on the intergenerational transmission of advantage in 2009 and 2010 and pointing to fruitful avenues for further research, which were followed up in this volume (Smeeding, Erikson, and Jäntti 2011). Most important, the book, *Persistence, Privilege, and Parenting*, suggested that certain data would allow one to more systematically and carefully trace the life course of the transmission of advantage across nations, if we could assemble the right teams of researchers and the right comparable cross-national datasets.

The editors and project leaders began to unravel this mystery by undertaking a multiyear, multiteam cross-national effort to identify the channels through which parental advantage affected mobility. In so doing, we were able to bring together teams of scholars to examine the SES gradient for children of the same age, in the same outcome domain, in different nations using harmonized cross-national longitudinal household, administrative, and other data that are as comparable as possible. The premise of our project was the belief that comparison of socioeconomic gradients for two or more countries at specific points of a child's development would help us to identify the pathways connecting parental success to child success and the pathways through which that generation took place.

Our findings point to promising avenues for future causal modeling. The picture that emerges is both complex and robust. For instance,

we address the very important ongoing debate about the importance of early childhood education as the prime policy intervention point for leveling opportunities for success across children whose parents differ in terms of SES (Knudsen et al. 2006). We find that while cross-country differences in the SES gradient in cognitive skills do appear early on, it is not clear that these either increase as children age or that they are the sole determinants of the SES gradient in adult outcomes. We also are the first to discover that comparative gradients in socioemotional behaviors are much shallower than those in cognitive outcomes, suggesting that they contribute less to gradients in adult outcomes than do cognitive achievements. Moreover, the comparative evidence suggests that part of the gradient in SES outcomes in adulthood is due to factors that emerge in labor markets, such as social networks and institutions that set salaries and pay. One of our important contributions then is to show that SES gradients develop early on, but later outcomes in schooling, earnings, and so on are affected by many factors as children age. This, in turn, suggests that there are many stages at which interventions may diminish disadvantages, not just at one early point in a child's life course. Indeed, the reason we do not find strong evidence of widening disparities as children age may be that in most countries education policy does to some extent reduce (or at least not increase) SES disadvantages throughout school.

We were also able to create a secondary dataset (chapter 2, this volume) that includes more than three hundred parental SES gradients for different outcomes and countries, allowing us to assess both the strength of the parental SES association for each outcome across countries, and the ability to compare these countries across multiple outcomes. One of the most robust findings is that parental SES gradients in the United States are the most steep among all ten countries for almost every outcome. These findings suggest that the country with the least intergenerational mobility and the least equal opportunity for children to advance is the United States, a finding entirely consistent with those of Markus Jäntti and his colleagues (2006). Such findings suggest that if one wants to improve opportunity in the United States, policy must be used to flatten these gradients without undermining the ability of parents to do all they can for their children.

The research reported in this volume therefore breaks entirely new ground in terms of both depth and breadth of findings. It attests to the usefulness of having access to comparable cross-national data in exploring the importance of family background for child outcomes. While it is often very difficult to find research designs that allow for convincing causal models in most nations, we have advanced the field in important ways. We have shown that comparing the strength of the association between outcomes and origins at different stages of child development

across countries does provide a means to map out where it may—and where it may not—be fruitful to search for answers.

Chapter Organization

In the end, the available data that could be reasonably harmonized limited the range of comparisons we could achieve across age groups and countries. Table 1.1 summarizes the sixteen studies that are the foundation of this volume. It shows the countries, domains of inquiry, measures of parental SES, and different life stages explored in each chapter. Children are observed at different times in different countries and at different stages of development. For instance, the later life-course outcomes are visible only when parents are observed before 1980. The older outcomes after this period cannot yet be fully observed. In contrast, the younger child outcome data (for example, primary school and younger) are largely observed in 1990 and beyond. Only a few nations allow us repeated observation of different cohorts, for example, children under age six. Some of the observations are therefore after the onset of widespread inequality in some countries (for example, in Anglo-Saxon nations where income inequality has grown since 1980). Further, using parent education to measure SES suggests that the patterns of postsecondary achievement in figure 1.6 may well come into play as different cohorts are viewed in different countries at different times.

Introductory Chapters: Meta-Analysis and Prototype

Chapter 2 investigates common elements and differences in the relationship between parental education and outcomes across all the life-cycle stages, domains, and countries in our study. It provides an unvarnished view of the relationships for all results in all chapters. To gain more general insights, rather than list in detail the specific coefficient estimates from each chapter, we chose to ask the participating research groups to provide data in a standardized format to enable us to examine the patterns in the data more broadly. The goal of chapter 2 is to use these data as a separate meta-analytic database and examine how the association of child outcomes with parental SES varies across domains, countries, and child's age in an admittedly broad but informative way. Our regressions, based on 292 data points linking parental SES (as standardized by education) to various child and adult outcomes, suggest important ways in which the intergenerational gradients differ, and some in which they do not, across these dimensions. The meta-analysis offered here, though broadly consistent with the findings of the individual chapters, is intended to complement rather than replace a more detailed reading of

Table 1.1 Summary of Domains, Countries, and Life Stages Distributed by Projects

Projects, by chapter	3	4	5	6	7	8
Domains						
Cognitive	X	X		X	X	
Socioemotional- noncognitive	X	X	X	X		
Health-physical	X					
Education	X				X	X
Labor market	X				X	X
Countries						
Australia		X		X		
Canada		X				
Denmark						X
Finland						
France					X	
Germany			X			
Italy						
Sweden	X					
United Kingdom		X	X	X		
United States		X				
Life stage						
Birth year (0 to 1)						
Early childhood (2 to 6)		X	X	X	X	X
Middle childhood (7 to 11)				X	X	X
Adolescence (12 to 17)	X				X	X
Early adulthood (18 to 29)	X				X	
Adulthood (30+)	X				X	X
Parental SES						
Education	X	X	X	X	X	X
Income	X	X	X			X
Other					X	
Year P_{SES} measured	1962– 1965	2000– 2004	2000– 2003	1999– 2001	1978, 1980, 1989, 1993	1984– 1991

Source: Authors' compilation.

Note: United Kingdom includes Scotland and England.

the studies we have based it on and to provide a broader framework for summing up the individual effects.

We identify large differences in the level of intergenerational association across domains, the educational and cognitive being highest, the physical and socioemotional behavior being clearly the lowest, and the economic in between. The evidence across countries strongly suggests that the gradient in the United States is the steepest across the countries we study and that therefore the United States is likely to have the least mobility and the most persistence in the comparative chapters that follow. Finally, we find mixed evidence for whether the intergenerational associations grow stronger as children age, with the cognitive outcome domain most clearly suggesting this pattern.

The remaining chapters in this volume, on which data we have based the meta-analysis, offer studies of the same data that exploit in greater detail the possibilities offered by simultaneously including multiple control variables and different decomposition techniques. Almost all of the chapters are multinational and comparative by design, though we begin by highlighting one—chapter 3—that has unique data allowing the authors to fill in many of the links in figure 1.2 for the same children in one nation.

Chapter 3, written by Carina Mood and her colleagues, illustrates how one might ideally explore the way that skills and traits acquired earlier in life feed into the intergenerational correlations in completed education and income. Because it also illustrates the power and accuracy afforded by the use of administrative data, albeit in one country (Sweden), it offers something of a prototype for future research in this field of inquiry. It takes apart the correlation between fathers' and their sons' incomes (and their respective adult educational attainments), which is the point of departure for this book. In particular, it performs decompositions of these correlations into the contributions attributable to well-measured mobility-relevant skills when the son was aged eighteen. It contains a large number of potentially mediating variables, which include four measures of cognitive ability, four of personality traits, and three of physical traits, as well as the grade point average in the last grade of compulsory secondary school at sixteen. The chapter finds that father's education is strongly related to son's education in large part through the fact that father's education and son's cognitive ability are correlated, and that son's cognitive ability is strongly related to his educational attainment. His personality characteristics at eighteen play only a small role. Although the son's cognitive ability also contributes strongly to the intergenerational correlation in income, partly through the higher education of the son, an important part of the father-son income correlation comes from the association of the son's personality traits with father's income and a strong relationship between his personality traits and his adult income. Physiological characteristics contribute little to either correlation.

The remaining chapters of this volume focus on particular parts of childhood. Five deal with early childhood, particularly before children begin primary school. Another four are concerned with middle childhood to adolescence, and the next five are mainly concerned with late adolescence and early adulthood, and participation in tertiary education. Chapter 18 studies the role of parents' networks in their son's transition to the labor market and their contribution to the father-son correlation in earnings.

Early Childhood

It may be that early differences in achievement are more susceptible to policy changes than older ones are, because the link between family and outcome is less affected by other national institutions and policies that come later in a child's life. Interventions at this stage may also be more cost effective in terms of improving long-term outcomes (Knudsen et al. 2006). We are therefore especially interested in the early stage differences in gradients that come about because of parenting, child care quality and uniformity, and early childhood education.

In chapter 4, Bruce Bradbury and his colleagues document that significant differences in mobility-relevant skills by parental education and income are discernible as early as the age of five in all four countries examined: Australia, Canada, the United Kingdom, and the United States. These differences are generally larger in the United States and the United Kingdom than in Canada and Australia, the United States showing the greatest cognitive differences by parental SES of all four countries.

In chapter 5, John Ermisch, Frank Peter, and Katharina Spiess concentrate on how family change during children's preschool years, such as parental separation or the mother living with a new partner, is associated with their socioemotional behavior. They find similar associations for the United Kingdom and Germany, and conclude that stable family environments are associated with better child behavior in both countries. Family instability is more common among parents with lower education, and this association contributes a moderate fraction to the gradient in socioemotional behavior by parental education.

Chapter 6, by Jo Blanden, Ilan Katz, and Gerry Redmond, takes a more dynamic perspective on cognitive development during preschool and into primary school in the United Kingdom and Australia. The authors find that the gradient in cognitive outcomes by parental education over ages three to seven in the United Kingdom and four to eight in Australia remains relatively constant, neither narrowing nor widening as they start school. Their evidence also indicates that persistence in low cognitive scores over these ages is much higher in the low parental education group, particularly so in the United Kingdom.

The evidence of preschool differences in cognitive and socioemotional development that are related to parental SES could in part reflect differences by SES in child-care arrangements and preschool education, but no evidence is presented on this issue in the previous three chapters. Chapter 7, by Christelle Dumas and Arnaud Lefranc, investigates the impact of universal preschool education in France on children's achievements during school and beyond. Dumas and Lefranc exploit preschool extension that varies over time and municipalities to identify both short- and long-term effects of preschool education on schooling and labor market outcomes, with children from lower SES groups benefiting more. Their evidence suggests that universal preschool education compresses SES differentials in outcomes during school and in adult earnings, thereby enhancing intergenerational mobility. Chapter 8, a complementary study by Paul Bingley and Niels Westergård-Nielsen, uses Danish administrative data to examine the contribution of daycare availability to the intergenerational association of educational attainments and income. The authors find that the educational mobility of children of low-educated parents improves with the availability of daycare in the municipality, but that children from more affluent homes are not affected.

Middle Childhood to Adolescence

Four chapters study the evolution of the achievement gradient with respect to parental SES as the child ages from six to sixteen. Greg Duncan and his colleagues assess in chapter 9 how much differences in cognitive and socioemotional outcomes in relation to parents' educational attainments at ages seven to ten and in adolescence contribute to the parent-child gradient in educational attainment. Their comparative analysis of four countries—Finland, Sweden, the United States, and the United Kingdom—indicates that childhood and adolescent skills account for one-third to one-half of the intergenerational correlation in completed schooling in these countries.

Chapter 10, by Katherine Magnuson, Jane Waldfogel, and Elizabeth Washbrook, compares England and the United States as a child ages from six to fourteen. Evidence is strong that gaps in cognitive achievement by parental education or income widen in England between the ages of eleven and fourteen. In the United States, whether these gaps widen after age seven depends on whether you think of achievement in terms of absolute skill levels (number of questions answered correctly) or relative skill levels (standardized scores).

In chapter 11, John Jerrim and John Micklewright study changes in the relation between family background and scores in two internationally standardized achievement tests taken at ages ten and fifteen, respectively, for a number of the countries studied in other chapters of the book. They find a striking similarity in the relationship between

test scores and a measure of family background—the number of books in the home—at both ages in all countries. There is some evidence that this relationship is stronger at age fifteen than age ten in England and Scotland, echoing the finding of Katherine Magnuson and her colleagues in chapter 10, but in most countries the relationship is stable between the two ages.

In chapter 12, John Ermisch and Emilia Del Bono focus on England and find a widening of the gradient in school results with respect to parental education between ages eleven and fourteen and maintenance of the gradient at sixteen, in line with the results from the previous two chapters. They exploit the clustering of their sample by school to show that the widening is strongly related to the association between the quality of secondary school that children attend and their parents' SES, which is stronger than the association between primary school quality and parents' SES. The chapter also presents evidence that the gradient between parents' education and cognitive or school achievement around the age of fourteen is steepest in England and the United States and smallest in Canada and Australia.

Late Adolescence and Beyond

The next six chapters follow children beyond school into university education and the labor market. Chapter 13, by Massimiliano Bratti and his colleagues, investigates the role of educational tracking systems in producing associations between parental background and educational achievements in Italy and Germany. They find a strong association between parents' education and children's achievements in Germany and Italy before tracking takes place—similar to that in other countries studied in this volume. The study demonstrates inequality by parental education in entry to tracks, and this does not weaken during school (for example, it exists for repeating grades and changing tracks). There is a larger attenuation of parental effects as the child progresses through school in Germany than in Italy. Even after controlling for prior academic performance and school track, however, an association between university enrollment and parental education exists for both countries. The chapter concludes that the nature of tracking systems is more important for the strength of SES gradients than age at tracking.

In chapter 14, Robert Haveman and his colleagues compare the United States and Canada during middle childhood, adolescence, and early adulthood. They find remarkably similar gradients in outcomes with respect to parental income in both countries, although the associations generally tend to be lower in Canada. With respect to college attendance, there is a larger penalty from having low-income parents in the United States and a bigger boost from upper-income parents in Canada.

In chapter 15, Massimiliano Bratti and Lorenzo Cappellari study a particular university reform in Italy, which shortened the time that students had to study to obtain a university degree, but also offered the option to study for a further degree. Although the reform widened participation in university, the financial return to the shorter degree in the new system is found to be smaller than that from the old system's long degree. Because the offspring of parents with higher education are more likely to continue their studies beyond the short degree, the reform increased inequality in labor market outcomes among university graduates. These results point to the importance of examining all outcomes of a reform in evaluating its consequences.

In chapter 16, Silke Anger estimates the correlations between German parents and their adolescent children in cognitive abilities and personality traits. She finds similar correlations for cognitive ability (of the order of 0.5) as have been found in Norway, Sweden, and the United States (and slightly higher correlations than in the United Kingdom). Correlations in personality traits are smaller, and none of the correlations are affected by controls for parents' education.

In chapter 17, Anders Björklund, Markus Jäntti, and Martin Nybom study the contribution of early child health, achievements at the end of compulsory schooling, and educational attainments in Sweden and the United Kingdom to the correlation between parents' education and the child's weekly earnings in adulthood. It strongly suggests that the weaker relationship between a child's earnings as an adult and parental education in Sweden than in the United Kingdom mainly arises because there are lower labor market returns to education in Sweden than in the United Kingdom.

Finally, in chapter 18, Paul Bingley, Miles Corak, and Niels Westergård-Nielsen compare Canada and Denmark in the degree to which a son's main employer in adulthood is the same as the father's, showing remarkable similarities in this respect in the two countries. They show that the transmission of employers is strongly and positively related to fathers' earnings, particularly at the top end. They find less intergenerational earnings mobility in Canada than in Denmark, but that the difference narrows higher up within the sons' earnings distribution. Preservation of high income status is strongly related to the tendency of their sons to have the same main employer among higher income fathers in both countries.

Limits and Cautions

The aim of the book is to present new descriptive material on intergenerational transmission. For the most part there are no estimates of causal effects in the strict sense (although Dumas and Lefranc's chapter 7 may be an exception), but that does not mean that the evidence presented is not strongly suggestive about causal mechanisms and the policy strate-

gies that may be implied by them, particularly when it is interpreted in the context of findings from other studies. In the penultimate chapter of the book we present the policy lessons that have emerged from the study.

In the end, it has been impossible to put together all life-cycle stages for any one country, or to cover all countries at any given stage. As a consequence, we cannot present a full picture of the extent to which outcomes at one stage feed into another, nor can we partition out the importance of particular stages in producing the overall intergenerational correlation of status, such as adult income or education in the child generation. For instance, the data we do have, and that was recently published by others, suggest that different labor markets reward the same skills at different rates. Hence, although the earnings rewards to higher skills are greater in the United Kingdom than in Sweden (see chapter 17), research on the United States and the United Kingdom finds much larger rewards for a given set of education credentials in the United States than in the United Kingdom (Blanden 2011).

Immigrants and racial gaps are given only minimal treatment in a few of the chapters because we take these countries as they are in terms of their make-up. Hence countries must adjust policies to meet the realities of the populations that they contain. And sometimes factoring out minorities makes little difference in the results. For instance, Markus Jäntti and his colleagues (2006) find that 42 percent of all U.S. children observed around age thirty-five whose parents were in the lowest quintile group of earnings when they were fifteen years of age remain there as adults. If we exclude blacks from this population, the proportion who remain in the lowest quintile group is 38 percent, still much higher than all of the other countries observed.

In any case, developing common measures of immigrant status is in its infancy within many nations, and these measures are difficult to harmonize across countries (Parsons and Smeeding 2006). The results in chapter 4 of this volume suggest that immigrants do not play a large role, even in Canada and Australia, where immigration is largest, where the data are most recent, and where gradients are less than in other Anglo-Saxon nations. Hence, we do not believe that these factors will affect the results of the findings in this book. Finally, although socioemotional traits appear to be important for economic outcomes (see chapter 3), these traits tend to be measured in variable ways across countries.

Conclusions

Chapter 19, the penultimate chapter, discusses the book's main messages, which we summarize here. Gaps in outcomes by parental SES emerge early in childhood in all countries for which we have evidence. They exist for both cognitive and socioemotional outcomes and are usually larger for the

former. Gaps in either school achievement or cognitive test scores during adolescence exist for all of the large number of countries for which we have measures. Cross-national comparisons indicate that differences in the environment matter, with the United States generally having the largest gaps and Canada the smallest. We find only limited evidence of fanning out (that is, gaps become larger as a child ages) during childhood, hence little cross-national evidence for within-generation cumulative disadvantage. Robust evidence from three data sources, however, indicates that SES gaps in achievement for one country—the United Kingdom—become substantially bigger between the ages of eleven (the end of primary school) and fourteen. The widening gap is mainly related to the association between the quality of secondary school that children attend and their parents' SES, driven by residential choices, which is stronger than the association between primary school quality and parents' SES. In other countries, the SES gaps in outcomes are substantial but stay more or less the same through middle childhood and secondary school. But in no case do we find convergence in SES gaps at older ages and life stages, and hence early childhood education and socialization of lower-SES children may hold some promise for reducing the early gradients.

Overall, the evidence suggests that childhood gaps contribute significantly to intergenerational correlations in education and income in all nations. High-quality evidence from Sweden indicates that whereas cognitive ability influences both the son's educational attainment and his earnings, attributes such as social maturity, emotional stability, and leadership capacity measured in later adolescence and early adulthood pay off directly in the labor market rather than through education. About two-fifths of the father-son income correlation can be accounted for by cognitive and personality attributes, leaving a considerable remainder unaccounted for.

Differences between countries in intergenerational income mobility are not, however, necessarily driven entirely, or even mainly, by cross-country variation in the relationship between parental SES and childhood achievements, such as grades during adolescence or final education attainment. For instance, evidence indicates that the weaker relationship between a child's earnings as an adult and parental education in Sweden than in the United Kingdom mainly arises because labor market returns to education in Sweden are lower than in the United Kingdom. Parental influence continues into adulthood in terms of getting good jobs because of parental status or social networks.

Although the United States stands out in having the largest SES gaps and Canada as having some of the smallest, similarities across countries are numerous. Parents are important early in life, in school and related neighborhood choices, including secondary school systems with tracking. High-quality preschool experience—in terms of exposure to books, quality of preschool, formation of socioemotional (noncognitive) skills—has

an influence everywhere. Also, the net effect of education systems is not to reduce the relationship between parental SES and child achievement, and, at best, education systems may be offsetting existing processes of cumulative advantage in keeping the overall gradients stable as children age. Parental influence through networks continues into the labor market in early adulthood, but smaller earnings returns to ability and education may reduce the midlife parent-child income correlation in some countries.

An important policy lesson from the research is that it is possible to provide more equal life chances than is the case in the United States without violation of the autonomy of the family or the principle of merit in assigning income positions (for example, jobs) in society. The experience of Canada is a particularly prime example. We also find that certain policies, such as universal preschool education, reduce the influence of family background on children's life chances, even in a country with relatively low intergenerational mobility and high income inequality—France.

This volume ends with a short postscript chapter by John Roemer that summarizes and reflects on the importance of parental rights. As we have seen in most chapters, parental inputs or lack thereof have long-term effects on children's mobility, especially in the very early years of life. Parental rights and responsibilities are especially important and sometimes differentially limited by culture, belief, institutions, and law. But, parents with more money, time, and other resources can have large effects on children's development and well-being. Parents will do all they can to help their children, and so parental rights may place important limits on the ability of policy to enhance mobility, including policies that are targeted to help the poor.

Notes

1. Based on LIS key figures, at <http://www.lisdatacenter.org/lis-ikf-webapp/app/search-ikf-figures> (accessed November 28, 2011), and Gornick and Jäntti (2010).
2. In referring to certain measures and abilities, we often use the terminology *socioemotional* or *sociobehavioral* rather than the more common *noncognitive* to refer to the diverse sets of behavior (for example, attention, anti- or prosocial behaviors, mental health, locus of control, and so on) generally lumped together as noncognitive traits (see chapter 9, this volume).
3. Of the eleven countries shown in figure 1.1, data from Norway are not included in the current studies.
4. The online appendix can be found at: http://www.russellsage.org/Ermisch_et_al_OnlineAppendix.pdf.
5. Some might argue that we should consider the association with mother's and father's education separately, but we are only using parents' education as a descriptive categorization, not trying to measure their causal impacts. To do the latter requires particular identification strategies (for example, see Ermisch and Pronzato 2011).

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