Transfers, Bequests, and Human Capital Investment in Children over the Lifecycle

Eric French
University College London

Andrew Hood and Cormac O'Dea
Institute for Fiscal Studies

Prepared for the 19th Annual Joint Meeting of the Retirement Research Consortium
August 3-4, 2017
Washington, DC

The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA), funded as part of the Retirement Research Consortium. The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the federal government, University College London, the Institute for Fiscal Studies, or the University of Michigan Retirement Research Center.

Motivation and Contribution

Intergenerational links are a key determinant of levels of inequality and social mobility, with previous work – which looked at a range of developed economies – finding very significant intergenerational correlations in education, incomes, and wealth. Understanding the drivers of this persistence of economic outcomes across generations is crucial for the design of redistributive tax and transfer policies. In this paper, we focus on the quantitative effects on inequality over the life-cycle of three different types of parental investments in children: 1) time investments during childhood and adolescence that aid child development, and in particular cognitive ability; 2) educational investments that improve school quality, and hence educational outcomes; and 3) cash investments in the form of inter-vivos transfers and bequests.

We use unique U.K. data that has followed a cohort of individuals from birth to retirement to document the evolution of inequality over the life-cycle. A "back-of-the-envelope" calculation focusing on men in this cohort suggests that nearly 40 percent of the differences in average lifetime incomes by paternal education are explained by ability at age 7, around 40 percent by a subsequent divergence in ability and different educational outcomes, and around 20 percent by the inter-vivos transfers and bequests received so far.

Data and Descriptives

The key data source for this paper is the *National Child Development Study* (NCDS). The NCDS follows the lives of all people born in England, Scotland, and Wales in one particular week in March 1958. The initial survey at birth has been followed by subsequent surveys at the ages of 7, 11, 16, 23, 33, 42, 46, 50 and 55. We supplement the NCDS with data from the *English Longitudinal Study of Ageing* on the inheritances received by this cohort. Key descriptive findings include:

- By the age of 7, ability gaps between those with higher- and lower-educated parents have already opened up considerably. These differences in measures of cognitive ability continue to widen to the age of 16. At the same time, higher-educated parents are significantly more likely to invest time in their children (reading to them regularly, taking an interest in their education, taking them on outings).

- There is a strong intergenerational correlation in educational attainment: while 66 percent of those with a college-educated father also attend college, that figure falls to 20 percent of those with the lowest-educated fathers. Fifty percent of those whose fathers attended college go to the schools in the top 20 percent by quality (as measured by the proportion of students who continue beyond the compulsory leaving age), compared to 15 percent of those with low-educated fathers.
- Bequests are both more common and substantially larger, on average, for those with higher-educated parents. Those with college-educated fathers have inherited around $40,000 more than those with low-educated fathers, with many of the parents of this cohort still alive.
- Table 1 summarizes differences in lifetime income across education groups.

Table 1. *Decomposition of Differences in Lifetime Income by Father's Education*

	Father's education	
	Some post-compulsory	Some college
Ability at age 7	£65,000	£115,000
Evolution of ability from 7 to 16	£53,000	£80,000
Education conditional on ability	£17,000	£59,000
Inter-vivos transfers and bequests	£24,000	£37,000
Total difference	£159,000	£291,000

Note: Differences relative to those with low-educated fathers (compulsory education only). Figures calculated for men.

Reduced-form Evidence on the Return to Parental Investments

In Section 3 of the paper, we look more formally at the relationship between parental time investments and the evolution of ability with age, and the relationship between school quality and educational outcomes. We find that:

- Our composite measure of time investments has a significant effect on changes in ability over time, even after conditioning on background characteristics. A one-standard-

deviation increase in time investments at age 7 raises age-11 ability by 0.14 of a standard deviation, and a one-standard-deviation increase in time investments at age 11 raises age-16 ability by 0.09 of a standard deviation.

- Our measure of school quality does have a role in driving educational outcomes over and above ability, but that impact is relatively small. Compared to attending a school in the bottom 20 percent of the school quality distribution, attending a school in the top 20 percent of the quality distribution raises the probability of college education by around 7 percentage points on average, compared to a 22-percentage-point increase from each standard deviation of normalized age-16 ability.

Model

Section 4 of the paper outlines a multigenerational dynamic model of consumption and labor supply in which parents can make different types of transfers to their children. Parents are altruistic toward their children and can make time investments (which affect the child's ability) and educational investments (which affect educational outcomes) and can transfer cash, in the form of inter-vivos transfers and bequests. The child's future earnings depend on their ability and their educational outcomes. The model hence captures the trade-offs parents face between their own consumption and leisure (from which they derive utility) and investments of these different forms in their children that would increase their children's welfare.

The model can be used to: 1) evaluate how particular intergenerational transfers affect household behavior; 2) compare the relative insurance value of these types of transfers; and 3) simulate household behavior and welfare under counterfactual policies (for example, under reforms to estate taxation).

Policy Implications

The paper shows that policymakers interested in tackling the intergenerational transmission of inequalities need to consider policies designed to counter the inequality-increasing effects of each of the three forms of parental investment, since each is quantitatively important in driving inequalities in income. Moreover, policymakers should bear in mind the substitutability of these different forms of investment – any attempt to shut down one channel of parental investments may provoke a shift toward investment in other forms.

The findings of this paper have a number of more specific implications for tax and transfer policies. For example, redistributive transfer programs are often explicitly justified as providing insurance against health, unemployment, and other shocks. This paper suggests that these policies also provide insurance against parental characteristics, which are an uninsurable risk from the perspective of the child. Balanced against this insurance motivation, we find that many of these differences across the education gradient come from active investments on the part of high-education parents. Tax policies that reduce inequality likely will reduce parental investments. Our model will allow us to characterize these trade-offs.