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Intergenerational Altruism and Transfers of Time and Money: A Life-cycle Perspective

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Intergenerational links are a key determinant of levels of inequality and social mobility, with previous work looking at a range of developed economies finding very significant intergenerational correlations in education, incomes, and wealth. The literature on understanding the drivers of this persistence is much newer. Understanding those drivers of of economic outcomes and their persistence across generations is crucial for the design of tax and transfer policies for two main reasons. First, insofar as the correlations reflect differential parental investments in children (both of time and money), they represent an important reason the design of public policy should not treat the distributions of ability, education, earnings, and wealth as fixed. Policies designed to mitigate the intergenerational transmission of inequality through one channel (e.g., estate taxes) could, by affecting parental investments, increase transmission through another channel (e.g., parental spending on children's education). Second, the extent of parental investment in children during the course of their lives provides important evidence on the extent of intergenerational altruism – the extent to which parents forgo consumption and leisure to invest in their children allows us to estimate the relative weight they put on their children's welfare relative to their own. The degree of intergenerational altruism is a key parameter for assessing the potential benefits of Social Security and tax reform, since current generations will only be willing to accept cuts to their benefits in order to reduce budget deficits if they are altruistic toward future generations.

In this paper, we develop a dynastic model of household decision making that incorporates three different types of parental investment in children: i) time investments during childhood and adolescence that aid child development, and in particular, cognitive ability; ii) educational investments that improve school quality and hence educational outcomes; and iii) cash investments in the form of *inter vivos* transfers and bequests. The key contribution of the paper is to estimate such a model using unique British cohort data that follows individuals

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from birth to retirement. Using these data, we can measure parental inputs over the whole life cycle, and hence look directly at early life investments of time and goods, estimate a child production function for cognitive ability, and link that ability measure to earnings in adulthood. The data also include detailed information about the schooling received by individuals and the *inter vivos* transfers they then receive from parents during early adult life.

Using these data, we are able to build and estimate a model capable of speaking to the issues raised above. First, we can provide an estimate of the degree of intergenerational altruism, drawing on data on a number of different investment decisions. Such an estimate is likely to be more robust than one based on a single decision (such as how much to leave in bequests), which is likely to be affected by a number of other confounding factors. Second, having estimated the degree of intergenerational altruism (along with the other structural parameters that govern household behaviour), we can run policy counterfactuals and look at how each type of parental investment would respond.

Preliminary analysis of the unique cohort data suggests that around 40 percent of differences in average lifetime income by paternal education are explained by ability at age 7, around 40 percent by subsequent divergence in ability and different educational outcomes, and around 20 percent by *inter vivos* transfers and bequests received so far. These findings are supported by results from a simple version of the model that has been calibrated to match wealth and labour supply moments. Using consumption equivalent variation to measure the welfare gains from higher-educated parents, we again find that differences in investments before and after the age of 7 are of roughly equal importance in determining lifetime utility differences between children of high- versus low-educated parents, with investments in ability and education looking much more important than differences in the level of inter vivos transfers and bequests. Looking in more detail at investments in ability, we find that higher levels of time investments increase ability, and that the ability production function looks to exhibit dynamic complementarity, at least at younger ages.

Finally, we present estimates of many of the investments that households make in their children, including time and money investments. We show that increased investment of time and goods of parents leads to higher ability children (as measured by test scores), and this higher ability leads to higher wages and incomes later in life. Furthermore, we show that higher income parents invest more in their children, and that these investments can explain much of the difference in lifetime incomes of children across the parental education distribution.

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