The Correlation of Wealth across Generations

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In this paper, we find that the age-adjusted elasticity of child wealth with respect to parental wealth is 0.37 before the transfer of bequests. Lifetime income and asset ownership jointly explain nearly two-thirds of the wealth elasticity. Education, past parental transfers, and expected future bequests account for little of the remaining elasticity. Survey measures of risk correlate strongly between parents and children. However, they explain little of the intergenerational similarity in the propensity to own different assets, suggesting that children's savings propensities are determined by mimicking their parents' behavior, or the inheritance of preferences not related to risk tolerance. Our results imply that while parents do pass on human capital and saving propensities to their children, the level of intergenerational fluidity is much greater than that suggested by recent accounts in the popular press.

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I. Introduction

How likely are the children of wealthy parents to be wealthy as well? What accounts for this association? Do wealthy parents have wealthy children because they (*a*) invest in their children's education, raising their income and wealth; (*b*) give their children financial gifts, which raises their wealth directly, and provide them credit and insurance so that they are more likely to undertake potentially risky investments; or (*c*) pass on similar propensities to save? Despite their implications for understanding the persistence of economic inequality, there is little empirical evidence on these questions. This paper examines the extent of the intergenerational relationship in wealth for a nationally representative sample of parent-child pairs. In addition, it separates among possible explanations for this relationship.

We estimate a simple regression of the log of child's wealth on the log of parent's wealth. When the only other controls in this regression are child and parental age, the coefficient on parental wealth measures the age-adjusted elasticity of child wealth with respect to parental wealth. Adding parent and child values for different variables to this regression establishes how much of the intergenerational wealth elasticity is attributable to these controls. We find an age-adjusted intergenerational wealth elasticity of 0.37, implying that parents whose wealth is 50 percent above the mean in the parents' generation have children whose wealth is 18 percent above the mean in the children's generation.

We estimate the intergenerational wealth elasticity from a sample in which both parents and children are still alive, so ours is an estimate of the parent-child wealth relationship before the transfer of bequests. As we explain below, data limitations prevent us from studying how the wealth of parents and children is related after the transfer of bequests, though we are able to study the effect of previous gifts and expected future bequests. Given the obvious importance of bequests, what is the gain from studying the prebequest relationship? Because a child who receives bequests from his or her parents will do so only upon their deaths, those born to parents in their mid-20s may be well into their 50s before they receive a bequest from them. The prebequest wealth relationship we study in this paper therefore explores why parents and children have similar wealth for the majority of their lives. This analysis allows us to assess intergenerational similarities in saving propensities, conditional on lifetime resources.

We find that standard inputs to household wealth accumulation—income, human capital, and the ownership of particular assets—are highly correlated between parents and their children. Analysis shows that income, measured in the level, growth, and variance, accounts by itself for one-half of the parent-child wealth relationship. And more than one-half of this effect derives from the fact that parents and children generate very similar income flows over the life cycle. Most of the other factors we study, such as education, previous large financial gifts, and expected future bequests, explain virtually none of the intergenerational wealth elasticity, after we control for income. Portfolio composition is different. We find that controlling for the types of assets that parents and children hold accounts, by itself, for 36 percent of the intergenerational wealth elasticity and for 11 percent of the elasticity once income is already accounted for.

Almost 35 percent of the intergenerational wealth elasticity remains unexplained after income, propensity to own assets, education, gifts, and expected bequests are controlled for. What are the other mechanisms for wealth transmission? Preferences are a possible candidate. In Section V, we study new, experimental survey data on risk tolerance. We find that parents and children have similar preferences for risk, especially at the tails of the risk tolerance distribution. Also, persons with higher risk tolerance hold riskier assets, as theory would suggest. However, risk tolerance explains only a small amount of the propensity for parents and children to own the same asset, suggesting that this association derives either from the tendency of children to mimic their parents' investment behavior or from intergenerational similarity in some aspect of preferences not related to risk. Finally, we find that the risk tolerance measures explain little of the remaining intergenerational wealth elasticity after we control for income and asset ownership. There is thus a residual portion of the parent-child wealth relationship that we cannot explain.

While our results show that children's wealth is systematically related to that of their parents, the implied level of intergenerational fluidity we document is much greater than that suggested by recent accounts in the popular press (Krugman 2002). Age-adjusted parental wealth, by itself, explains less than 10 percent of the variation in age-adjusted child wealth. Furthermore, 20 percent of parents in the lowest quintile of the parent's wealth distribution have children who are able to break away from their parents' low-wealth status and end up in the top two quintiles of the child's wealth distribution. Similarly, one-quarter of the parents in the highest wealth quintile have children whose wealth places them in the lowest two quintiles of the child's wealth distribution. We conclude that while parents do pass on human capital and saving propensities to their children, there is still a sizable amount of churning in economic position from generation to generation.

Aside from Mulligan (1997), the few previous authors who have studied the intergenerational wealth association have used samples from very specialized subpopulations drawn from the late nineteenth and early twentieth centuries.[1] Although wealth was not the primary focus of his analysis, Mulligan reports estimates of the elasticity in log wealth between parents and their children of between 0.32 and 0.43. However, he does not attempt to separate between different explanations for the parent-child wealth relationship.

Of the intergenerational relationships that can affect the similarity in parent-child wealth, the one that has received the most independent attention is the intergenerational relationship in income.[2] The consensus is that the elasticity of log child earnings with respect to log parents' earnings is between 0.4 and 0.6, after one accounts for measurement error (Mulligan 1997; Solon 1999). Few papers have looked at how the growth rate and variances of parents' and child's incomes are related, and no one has studied how much of the intergenerational wealth relationship is attributable to the aspects of lifetime income emphasized in the theoretical literature.[3]

Venti and Wise (2000) show that at all levels of lifetime earnings there is great dispersion in the amount of accumulated assets. Only a handful of papers have looked at direct evidence on the extent of heterogeneity in household savings preference parameters, although none examines whether these preferences are related between parents and children (Lawrance 1991; Barsky et al. 1997; Samwick 1998; Warner and Pleeter 2001). Work on intergenerational correlations in portfolio composition is equally sparse (for exceptions, see Chiteji and Stafford [2000] and Hurst and Lusardi [2002]).

II. Data

We use data from the Panel Study of Income Dynamics (PSID). The PSID is a large nationally representative survey started in 1968 that tracks the socioeconomic variables of a given family over time. In each year of the survey, demographic questions such as age, race, family composition, and education levels are asked of all members of the households. Among other information, the survey asks each household de-

[1] Menchik (1979), Wahl (1985), and Kearl and Pope (1986) relate child and parental wealth for historical samples.

[2] See Mulligan (1997) and Solon (1999) for recent surveys on the income correlations literature. See also Altonji and Dunn (1991, 2000), Solon (1992, 1999), Zimmerman (1992), Mulligan (1996, 1997), Han and Mulligan (2000), and Shea (2000). Cox, Ng, and Waldkirch (2003) document intergenerational consumption linkages. Altonji, Hayashi, and Kotlikoff (1992) test for whether parents are altruistic toward their children.

[3] Standard life cycle models of wealth accumulation suggest that wealth depends on (1) the level of lifetime income, (2) the trajectory of lifetime income, and (3) the propensity to save out of given lifetime income levels and trajectories (see Modigliani and Brumberg 1954; Friedman 1957). Extensions to the basic model argue that the expected future variance of income matters as well (Deaton 1991; Carroll 1994).

tailed questions about labor market participation and earned labor income.

Occasionally, the PSID supplements the main data set with special modules. In 1984, 1989, 1994, and 1999, the PSID asked households extensive questions about their wealth. For the measure of wealth, we sum the household's holding of real estate—own or main home, second home, rental real estate, land contract holdings—cars, trucks, motor homes, boats, farm or business, stocks, bonds, mutual funds, saving and checking accounts, money market funds, certificates of deposit, government savings bonds, Treasury bills, individual retirement accounts, bond funds, cash value of life insurance policies, valuable collections for investment purposes, and rights in a trust or estate, less mortgage, credit card, and other debt on such assets. Aside from pensions (both private and public), the PSID data provide a relatively complete picture of household financial wealth.[4]

The PSID was designed, in part, to study economic mobility across generations. As such, the data set takes uncommon care to track and survey children of core sample respondents. The children of core sample members become part of the PSID core sample as they leave their parents' household and form their own households. All new households that have become part of the PSID after the original sample was formed are the children or grandchildren of that original sample. This intergenerational feature of the sample design makes the PSID a good data set to analyze the similarity of wealth position between parents and children.

We study families with children between 25 and 65 in the 1999 survey and with parents who were part of the survey in 1984, 1989, and 1999 and were not retired in 1984 and 1989 when parental wealth was measured. We emphasize nonretirement status in order to capture households during the time in their life cycles in which they are accumulating wealth. Parental wealth is measured as the average of their reported wealth in both 1984 and 1989, and child wealth is measured in 1999.[5]

This paper does not address the effect of bequests to children after parental death on the intergenerational wealth relationship. The sample includes only families in which the child in 1999 has at least one core sample parent known to be alive in 1999. In fact, the vast majority of available parent-child pairs in the data are of this type. As late as the 1999 PSID survey, there were only 70 parent-child pairs in which both

[4] See Hurst, Luoh, and Stafford (1998) and Juster, Smith, and Stafford (1999) for a complete description of the PSID wealth data and a discussion of how the data compare to wealth information from other sources.

[5] Ideally, we would like to measure parents' and children's wealth at the same age, but we are prevented from doing so by the fact that the wealth measures in the PSID are currently at most 15 years apart.

TABLE 1
Means of Wealth and Demographic Variables for PSID Parent-Child Sample

Variable	Children (1999)	Parents (1984–89)
Age	37.5	52.0
	(7.1)	(7.8)
Average family labor income	57,200	70,400
	(50,800)	(60,700)
Percentage owning stocks	.313	.503
	(.464)	(.500)
Percentage owning a home	.688	.919
	(.464)	(.276)
Percentage owning a business	.169	.300
	(.374)	(.458)
Percentile of wealth:		
20th	39,225	49,635
40th	88,731	99,369
60th	162,728	174,889
80th	348,879	347,622
Level of wealth (mean)	158,716	326,355
	(550,272)	(822,990)
Log of wealth (mean)	10.7	11.7
	(1.7)	(1.5)

Note.—The sample consists of all PSID parent-child pairs in which (*a*) the parents were in the survey in 1984–89 and were alive in 1989, (*b*) the child was in the survey in 1999, (*c*) the head of the parent family was not retired and was between the ages of 25 and 65 in 1984, (*d*) the child was between ages 25 and 65 in 1999, and (*e*) both the child and the parent had positive wealth when measured. There were 1,491 such parent-child pairs. All data in this table and all subsequent tables are weighted using PSID core sample weights. All dollar amounts in this table and all subsequent tables are in 1996 dollars. Standard deviations, where applicable, are in parentheses.

nonretired parents in 1984 were known to have died. Studying the effect of bequests on the intergenerational wealth relationship in data sets such as the PSID, in which panel information is available about different generations of families, will not be possible for many years yet. The empirical work does assess the impact of expected future bequests on the parent-child wealth relationship.

We limit the sample to families in which both the parents and children have positive wealth in the years measured. Doing so allows us to measure the association in log wealth between parents and their children, which is more directly comparable to the measures of the intergenerational income elasticities reported in the literature. Imposing this restriction causes us to drop only a handful of observations from the sample. About 8 percent of the children and less than 1 percent of the parents had negative or zero reported net worth. The basic facts about the elasticities that we present, particularly in the transition matrix results, are not at all sensitive to this restriction.

The analysis sample consists of 1,491 parent-child pairs.[6] Table 1 pre-

[6] There were about 250 parents who were in the sample in 1984 but dropped out of the sample prior to 1999. We also removed these parent-child pairs from the sample because we could not determine whether the parents had died during the intervening

sents the means and standard deviations of key variables for both parents and children. In this table, and throughout the paper, all dollar values are reported in 1996 dollars. The first row of the table shows that children in the sample were about 15 years younger in 1999, on average, than their parents were in 1984. Because both wealth and income have a strong age component, we focus on age-adjusted wealth measures in the work that follows. The age differences between parents and children may also account for the fact that parents had more income, more wealth, and larger asset ownership rates.

The last four rows in the table reveal the extreme skewness of the wealth distribution. For example, among children, the difference between the twentieth and fortieth percentiles is about $50,000, whereas the difference between the sixtieth and eightieth percentiles is almost double that. Comparable numbers are evident among parents. We use the natural log of wealth in the regressions presented later to account for this skewness. Finally, the ratio of age-adjusted variance of child wealth to the variance of age-adjusted parental wealth is 1.14.

III. Elasticity of Child Wealth with Respect to Parental Wealth

To estimate the age-adjusted elasticity of child's wealth with respect to parent's wealth, we estimate the regression

$$W_k = \alpha + \delta_1 W_p + \alpha_{1k}\text{age}_k + \alpha_{2k}\text{age}_k^2 + \alpha_{1p}\text{age}_p + \alpha_{2p}\text{age}_p^2 + \epsilon_k, \quad (1)$$

where W_k and W_p measure the natural log wealth of the child, k, and parent, p, respectively; age_k, age_k^2, age_p, and age_p^2 measure their ages and the square of their ages at the time they are observed; and ϵ_k is an error term. The regression coefficient δ_1 in (1) measures the age-adjusted intergenerational wealth elasticity.

The fact that available wealth data are likely fraught with measurement error complicates this straightforward estimate of the wealth correlation. Given that it would be absorbed into ϵ_k, classical measurement error is irrelevant for the child wealth variable in a regression such as (1). However, classically mismeasured parental wealth would produce an attenuated estimate of the intergenerational wealth correlation. To deal with this problem, we follow the lead of previous work in the income correlations literature and exploit the panel structure of the available data by measuring parental wealth as the average of reported wealth over multiple time periods.[7] Henceforth, the parental wealth measure is the average of parental wealth over the 1984 and 1989 survey years.

years. We estimated all the regressions with and without these households included, and the results were essentially unchanged.

[7] See Solon (1992) for a similar approach with respect to income, and see Zimmerman (1992) for a useful discussion of potential biases in income correlations.

Estimating (1) by ordinary least squares (OLS), we find an age-adjusted elasticity of child wealth with respect to parental wealth of 0.37, with a *t*-statistic of more than 10. This implies that parents whose wealth is 10 percent above the mean in their generation have children who, before any parent-child bequests are transferred, have wealth that is 3.7 percent above the mean in the children's generation.[8] However, parental wealth explains less than 10 percent of the variation in child wealth, after parent and child age are controlled for. While parental wealth is important, it is by no means the sole determinant of a child's age-adjusted level of wealth.

We also examine parents' and children's *relative positions* in the age-adjusted wealth distributions. We first regress child and parent log wealth on age and age squared. We then split the residuals from these two regressions into five equal segments and create a parent-child wealth transition matrix. Each element π_{ab} of the matrix indicates the probability that a child belongs to the *a*th quintile of the distribution for children, given that her parents belong to the *b*th quintile of the parental distribution. The more independent children's and parents' wealth, the greater the likelihood that the elements of this transition matrix should be close to one-fifth. The greater the departure of the elements of the transition matrix from 0.2, the greater the intergenerational similarity in relative age-adjusted wealth position. The transition matrix method shows the intergenerational persistence of wealth at different points in the wealth distribution, accounting for the fact that the linear functional form assumed in (1) may be incorrect.

Table 2 presents the intergenerational transition matrix of age-adjusted log wealth. The evidence about persistence in this table is consistent with the estimated wealth elasticity from the regression. Reading down column 1, for example, one sees that the matrix indicates that 36.1 percent of parents in the lowest age-adjusted wealth quintile have children whose wealth places them in that same quintile in the children's adjusted wealth distribution. However, many children are able to escape their parents' economic position. Over one-third of the parents in the lowest quintile have children whose wealth places them in any of the three highest wealth quintiles in the child distribution, and 7 percent of children whose parents were in the lowest wealth quintile make it to the highest quintile.

A similar degree of persistence is evident at the other tail of the

[8] Though we average parental wealth over 1984 and 1989, our estimate of δ_1 may still be biased downward. Following the intergenerational income literature, we instrumented for parental wealth using parental education. The instrumented estimate of δ_1 was 0.590. We do not highlight this estimate because it is likely biased upward. Parental education can have a direct effect on child's wealth, even when both child's education and income are controlled for.

TABLE 2
Intergenerational Transition Matrix of Age-Adjusted Log Wealth Position

Child Age-Adjusted Log Wealth Quintile (1999)	Parental Age-Adjusted Log Wealth Quintile (1984–89)				
	1	2	3	4	5
1	36	26	16	15	11
2	29	24	21	13	16
3	16	24	25	20	14
4	12	15	24	26	24
5	7	12	15	26	36
Total	100	100	100	100	100

Note.—See the note to table 1 for a description of the sample (1,491 parent-child pairs). Each element of the matrix above, π_{ab}, indicates the probability (in percent) that a child belongs to the *a*th quintile of the distribution for children, given that her parents belong to the *a*th quintile of the parental distribution. The entries sum to one along the columns. To get age-adjusted wealth measures, both parent and child's log wealth were adjusted using a first-stage OLS regression of log wealth on age and age squared. The correlation of the *residuals* from the first-stage regression is presented in this table. The first-stage child (parent) regression included only child (parent) controls. The likelihood ratio χ^2 statistic that each cell is equal to the other for the unadjusted wealth entries is $\chi^2 = 262.4$ (*p*-value <.001).

parental wealth distribution. Thirty-six percent of high-wealth parents have children who end up in the top quintile of the child's age-adjusted wealth distribution, and almost 70 percent have children whose wealth places them in the top two wealth quintiles. However, comparable to the low end of the distribution, 11 percent of the children of high-wealth parents fall to the lowest quintile.

Overall, the table depicts a noticeable persistence in wealth position from parents to children. Throughout the matrix, the probability that a child ends up in a wealth quintile different from the one occupied by his parent tends to be monotonically decreasing the farther away that quintile is from the parent's. Children are most likely to fall into a wealth quintile exactly like that of their parents and are very unlikely to end up in a dramatically different one. A likelihood ratio χ^2 test confirms the persistence evident in the table: we can strongly reject the hypothesis that the entries in the adjusted wealth position transition matrix are equal to each other at any standard statistical level (*p*-value <.001). However, the wealth of children is far from being perfectly predicted by the wealth of their parents. Table 2 illustrates that there is a large amount of churning in economic position across generations.

IV. Decomposing the Intergenerational Wealth Elasticity

There are several reasons why parent and child wealth would be similar. First, wealth, unlike income, is directly transferred between generations. Second, income is correlated between parents and their children. The theoretical literature that sets out to explain the documented intergenerational earnings correlation often does so by invoking the existence of capital market imperfections (Becker and Tomes 1979, 1986; Loury

1981). If children find it difficult to borrow against their future income to accumulate human capital, high-income parents will be more able to relax the liquidity constraints faced by their children. Consequently, all else equal, the children of high-income parents will have higher levels of both education and income. Controlling for income will partially capture the extent to which capital market imperfections cause the intergenerational correlation in wealth. In our decompositions below, we also examine the effect of human capital accumulation directly. Additionally, even if capital markets are perfect, controlling for parent and child income captures any intergenerational correlation in innate ability or preferences that affect earnings directly, such as work ethic.

Finally, parents and children could have similar wealth because they have similar propensities to save out of any given income stream. In many standard models, the preference parameters that determine how much a household will save out of income also determine in which assets the household will save (see Browning and Lusardi [1996] and the sources cited within). As a result, controlling for household asset composition, in part, proxies for household savings propensities.

In this section we assess how much of the parent-child wealth relationship is attributable to income, education, the propensity to own specific assets, and the direct transfer of wealth in the form of expected future bequests and past parental gifts.

Table 3 shows that family income, education, and portfolio composition are highly correlated between parents and children. The table presents results from a series of simple regressions in which the child's value of a given variable is regressed on the same variable for the parent and age controls for both the parents and children. If the variable is a binary variable, the corresponding regression is estimated as a linear probability model.

The first entry shows that the elasticity of the level of child family income with respect to the parent's is 0.3. We measure the child's family income as the average of husband and wife's labor income between 1992 and 1996 and the parents' family income as the average of the husband and wife's income between 1983 and 1987. Our estimated income correlation is lower than that reported by Solon (1992) and Mulligan (1997), but this is not surprising given that their results refer to the elasticity between individual fathers and sons, and ours is the elasticity between fathers' and sons' *families*. The latter correlation will be lower as long as mating is not perfectly assortative with respect to income.

Table 3 also shows that education is also very similar between parents and their children. For example, the results indicate that having a parent who has some college education makes a child 32 percentage points

TABLE 3
SIMILARITY IN PARENT-CHILD INCOME, HUMAN CAPITAL, AND PORTFOLIO COMPOSITION

Child Outcome Measure (Dependent Variable)	Regression: Coefficient on Corresponding Parental Outcome Variable (1)	Regression: Mean of Dependent Variable (2)
Income:*		
Child's family log labor income	.301 (.025)	10.7
Education (head of child's family):†		
<12	.098 (.016)	.084
=12	.043 (.034)	.355
>12	.325 (.025)	.561
Asset ownership (dummy):‡		
Child owns stock	.162 (.022)	.313
Child owns business	.096 (.018)	.169
Child owns home	.167 (.040)	.688
Asset ownership, net of income and education (dummy):§		
Child owns stock	.028 (.022)	.313
Child owns business	.073 (.018)	.169
Child owns home	.089 (.039)	.688

NOTE.—The table reports the regression of child outcome (income, education, or asset ownership) on the similarly defined parental outcome variable (i.e., child income on parental income). All regressions include controls for both parent and child age and age squared. See the note to table 1 for a description of the sample (1,491 parent-child pairs). Standard errors for the regressions (in parentheses) are robust to heteroskedasticity and within-family correlation.

* Average child log family labor income is measured over 1992 and 1996. Average parent log family labor income is measured over 1984 and 1988.

† Education is measured with a dummy variable equal to one indicating whether the head of the household attained m years of schooling (for $m<12$, $m=12$, and $m>12$).

‡ Asset ownership is measured with a dummy variable that takes the value of one if the household owns portfolio component j (j = stocks, business, and home). Child asset ownership is measured in 1999. Parental asset ownership is measured in 1984.

§ The asset ownership regressions, net of income and education (regressions 4, 5, and 6), include controls for both parent and child income and education.

more likely to have college training—a very large marginal effect given that the mean college training rate among children is 56 percent.

The next entries in table 3 show the intergenerational similarity in asset ownership. The results indicate that having a parent who owns either stocks, a business, or a home makes a child much more likely to own the same asset as well. The estimated effect is strongly statistically significant in each case and, for all the assets, represents a large increase over the mean rate of asset ownership.

The association in the propensity to own assets may arise simply because parental and child lifetime incomes are similar. The final entries in the table show the results from a series of simple regressions in which a dummy variable indicating whether the child owns a portfolio component is regressed on the same variable for the parent, age controls for both the parents and children, and both parent and child income and income squared. For each asset category, controlling for parent and child income reduces the estimated parent-child relationship, though for both business and home ownership, the effect of parental portfolio ownership remains strong even after income is controlled for.[9] By contrast, the intergenerational correlation in stock ownership can be explained away once parent and child incomes are controlled for. Though we do not present the results, controlling for parental wealth in addition to income yields basically the same results as the last set of numbers. These results suggest that asset ownership is not similar between parents and children because wealthy parents relax liquidity constraints or otherwise provide downside risk insurance to their children.

With the discussion above in mind, we reestimate regression (1) with additional parent and child controls Z, including income, education, and portfolio composition:

$$W_k = \alpha + \delta_2 W_p + \alpha_{1k}\text{age}_k + \alpha_{2k}\text{age}_k^2 + \alpha_{1p}\text{age}_p + \alpha_{2p}\text{age}_p^2 + \beta_k Z_k + \beta_p Z_p + u_k. \quad (2)$$

The parental control variables enter for the standard reasons. Perhaps the association between parent and child wealth is not really due to wealth per se, but to the effect of parental income, education, or portfolio composition on child wealth, through the channels we have discussed above. To the extent that including these variables lowers the focus coefficient δ_2, we can say that these other effects "account for" the raw correlation of wealth across generations, δ_1 from equation (1). (Of course, it is possible that including controls raises the focus coefficient δ_2. This could happen, e.g., if parental income was positively correlated with parental wealth, but parental income had a negative independent effect on child wealth.)

Child education, income, and portfolio habits could enter the regression as well. In part, they could enter as indirect effects of parental wealth. Higher-wealth parents buy higher education for their children, which causes higher child income and in turn results in higher child wealth. These variables will also enter the regression for independent reasons. An unusually intelligent or talented child may gain a higher education or income and end up wealthy. However, these variables can

[9] These results are robust to the inclusion of age-income interactions, higher-order income controls, and the predicted measures of income discussed below.

lower the coefficient δ_2 only if they are correlated with parental wealth. Thus we can again say that the amount they lower (or raise) δ_2 again "accounts for" the raw correlation δ_2 between parent and child wealth.

As noted above, our parent and child Z controls include measures of parent and child income, education, and asset choice, as well as direct transfers such as gifts and expected bequests. We measure education as the completed years of schooling. Asset ownership is measured by a binary variable indicating that the parent or child reports owning the particular asset. Measuring lifetime income is more difficult. Theoretical models suggest that wealth is determined by the level, growth, and expected variance of lifetime income. Empirical measures of these dimensions of lifetime income are not readily at hand because we do not observe the full record of individuals' lifetime earnings.

We use two methods to deal with this problem. The first proxies for lifetime income using the average of the actual family labor income over multiple years. This method averages out transitory earnings shocks and classical measurement error present in yearly survey measures of family labor earnings. For parents, the average is taken over the years 1983–87, whereas for children it is taken over the years 1992–96.[10] To capture potential nonlinearities in the relationship between income and wealth, we also include the square of average labor income. For robustness (not reported), we included up to a quartic in income in all the specifications. The results reported in the remainder of the paper (using the quadratic in income) were identical to the results when a quartic in income was used.

The second method first pools all the data in the PSID for the sample years 1980–97 for nonretired persons aged between 25 and 64 in the particular year. Within race, sex, occupation, and educational cells, we then estimated regressions of annual family labor income on age and age squared. We used nine occupational categories, three education classes (less than high school, exactly high school, and more than high school), white and nonwhite race cells, and whether the head was male or female. In total, we estimated the expected income profile separately for 97 occupation-education-race-sex cells.[11] This procedure provides a measure of the expected total labor income earned by households in each race-sex-occupation-education cell, as well as the shape of their lifetime labor income profiles between the ages of 25 and 64. Using the coefficients on age and age squared from these regressions, we predict the family labor income, $\hat{Y}_{c,A}$, for households in each cell, c, earned at

[10] Income for 1996 (reported in the 1997 survey) is the latest income that is currently available from the PSID.

[11] There were fewer than 108 possible cells either because there were no observations in some cells or because there were too few observations in these cells to run a meaningful regression. In such cases, some cells were grouped together.

every age, A. We use these predicted measures as proxies for the different aspects of lifetime income.[12]

To proxy for the level of lifetime family labor income, $\hat{Y}_{c,\text{lifetime level}}$, we sum the family labor income at every age in each cell, $\hat{Y}_{c,A}$, from $A = 25$ to $A = 64$. Specifically,

$$\hat{Y}_{c,\text{lifetime level}} = \sum_{A=25}^{A=64} \hat{Y}_{c,A}. \tag{3}$$

To proxy for future income growth, we compute the fraction of lifetime income that the person is predicted to receive beyond the last age at which he is measured in the data. That is, if we measure the wealth of a person in cell c at age A^*, the fraction of income expected to be earned, $\hat{Y}_{c,A^*,\text{growth rate}}$, is measured as

$$\hat{Y}_{c,A^*,\text{growth rate}} = \frac{\sum_{A=A^*}^{A=64} \hat{Y}_{c,A}}{\sum_{A=25}^{A=64} \hat{Y}_{c,A}}. \tag{4}$$

Finally, we proxy for expected future variance of a person's future lifetime income by using the average income variance across individuals in the different race, occupation, education, and sex cells.

We also study the portion of the wealth correlation attributable to the expectation of future parental bequests and past parental gifts. In the analysis sample, parents are still alive so that children have not yet received bequests. However, the expectation that a bequest might be received in the future could cause children to hold less wealth than otherwise and parents—those making the bequest—to hold more. The PSID in 1994 asked respondents about their probability of leaving a bequest of $10,000 or $100,000. No information was asked about how much of a bequest the household expected to receive. We estimate the expected bequests to a particular child as the maximum probability that his or her parent would leave a $10,000 or $100,000 bequest multiplied by the amount of the bequest, divided by the number of children the parent has. In the sample, 24 percent of parents expect to leave no bequest. Among those leaving a bequest, the average expected bequest to each child was $35,264. We also included a dummy variable equal to one if the parent reported that he or she planned to leave a $100,000 bequest with certainty.

In each of the wealth supplements, households are asked if they received gifts totaling more than $10,000 over the last five years. If the household answered yes to that question, they are asked to report the exact amount of the gifts they received. We use this report as the measure

[12] This idea was recommended to us by Orazio Attanasio. We are grateful for his suggestion.

TABLE 4
DECOMPOSITION OF INTERGENERATIONAL WEALTH ELASTICITY

	Estimated Elasticity (1)	Fraction of Elasticity Explained (%) (2)	Additional Fraction of Elasticity Explained (%) (3)	Adjusted R^2 (4)
	A. Individual Factors			
Wealth elasticity, controlling for only age	.365 (.028)	...	...	.102
Wealth elasticity, controlling for age and:				
Actual and predicted income	.175 (.032)	52.1	...	.304
Education	.263 (.030)	28.0	...	.154
Past transfers and expected bequests	.303 (.032)	16.9	...	.112
Portfolio composition	.232 (.031)	36.4	...	.421
	B. All Factors			
Wealth elasticity, controlling for age, income, and:				
Education	.167 (.032)	54.3	2.2	.310
Past transfers and expected bequests	.161 (.034)	55.7	3.6	.305
Portfolio composition	.133 (.035)	63.6	11.5	.490
Education, past transfers, expected bequests, and portfolio composition	.129 (.037)	64.7	12.6	.492

NOTE.—See the note to table 1 for a description of the sample (1,491 parent-child pairs). The table reports the estimated coefficient on log parental wealth from regressions of log child wealth on log parental wealth with the various additional parental and child controls. Income controls include all the actual and predicted income controls described in the text (including a quadratic in actual income and age interacted with the actual and predicted income measures). Standard errors for the regressions (in parentheses) are robust to heteroskedasticity and within-family correlation.

of previous gifts. One obvious limitation of the gift measure is that small gifts are not recorded. Unfortunately, this is information in the data only about past gifts received. However, given the size of parental wealth for most households, these five-year total gift measures likely capture all nontrivial parental wealth transfers.

Table 4 reports the decomposition of the intergenerational wealth elasticity. Column 1 reports the coefficient on log parental wealth from regressions of log child wealth on log parental wealth plus additional parental and child controls. The controls in the particular regression are indicated in the left-hand column. Column 2 reports how much of the overall elasticity is accounted for by the particular factors, in the sense described earlier. Column 3, relevant only for panel B, shows how much of the elasticity is accounted for by a factor once income is already accounted for. The R^2 statistic for the associated regression is in column 4.

Panel A of the table considers the different factors individually. The first row shows the raw age-adjusted intergenerational wealth elasticity of 0.37 estimated from regression (1). The next row in the panel shows that when parental and child lifetime incomes are added to the regression, proxied by the measures discussed above, the estimated elasticity falls to 0.18. Thus 52 percent of the age-adjusted elasticity is accounted for by income. The fact that income explains only one-half of the intergenerational income elasticity, however, implies that parent and child wealth is correlated for reasons beyond the capital market imperfections discussed in much of the theoretical literature explaining the intergenerational income correlation (Becker and Tomes 1979, 1986; Loury 1981).

The third row in panel A assesses the effect of education. Adding controls for parental and child completed schooling lowers the wealth elasticity to 0.26, implying that 28 percent of the raw wealth elasticity is attributable to correlations between parental wealth and parent and child human capital. The table shows that expected bequests and previous gifts, by themselves, account for approximately 17 percent of the raw age-adjusted elasticity. The effect of portfolio choice is much larger. The final row in panel A shows that 36 percent of the intergenerational wealth elasticity is attributable purely to the correlation between parental wealth and parents' and children's propensities to hold particular financial assets.

One problem with the decomposition in panel A, in which the different factors are separately controlled for, is that their effect on the wealth elasticity *net of income* is not evident. This is of particular concern since all the additional controls are functions of child and parental income. Column 2 of panel B of table 4 assesses how much of the age-adjusted intergenerational wealth elasticity is explained by different factors, after income is controlled for. The second row of panel B shows that controlling for parental and child education when income is already accounted for changes the estimated elasticity by only 0.008 percentage point. This implies that education explains only an additional 2 percent of the age-adjusted wealth elasticity (0.008 divided by 0.365). Also trivial is the effect of expected bequests and transfers after income adjustment: they explain only an additional 4 percent of the wealth relationship. These results show that virtually all the explanatory effect of intra vivos transfers, education, and expected bequests is subsumed in the effect of the income.

The last row of panel B indicates that the same cannot be said about portfolio decisions. Parent and child saving propensities, proxied by portfolio allocation, explain an additional 11 percent of the parent-child wealth elasticity after income is accounted for. Portfolio composition has the largest explanatory role after income and, together with income, accounts for 64 percent of the raw age-adjusted elasticity. The powerful effect of income and portfolio choice is reinforced by the results from panel B, in which we simultaneously control for all the factors. All the factors together account for 65 percent of the raw age-adjusted elasticity—only a tiny amount larger than the effect of income and portfolio choices only. The inclusion of other controls that could affect the parent-child wealth correlation did not significantly change the results presented in the last row of table 4. In various specifications, we included controls for parent and child health, whether the parent and child lived in the same state, the marital status of both the parent and child, whether the parent or child was divorced, the work status of wives in married parent and child household units, the race of the parent and the child, and the number of children in both the parent's and the child's household.[13]

The R^2 statistics reported in column 4 of the table may be of independent interest. Parental wealth and age controls explain only about 10 percent of the variation in child wealth. Parental wealth alone (not reported) explains even less—only 8 percent of the variation in child wealth. These results are consistent with the results reported in table 2. While we show that children's wealth is systematically related to that of their parents, there is still a sizable amount of intergenerational fluidity across generations. Knowing parental wealth tells us something, but not everything, about child wealth. However, our results show that the additional variables we study do, in fact, explain a significant portion of the variation in child wealth. With parental wealth, age controls, and income controls, for example, the regression explains 30 percent of the variation in child wealth. Adding other variables only very modestly improves the model's fit. Portfolio composition is the exception. This variable, along with parental wealth, age, and income controls, explains nearly half (49.2 percent) of the variation in child wealth.

In addition to the regression results shown above, we ask, Do income and portfolio choice explain the wealth elasticity similarly at both the high and low ends of the distributions? Table 5 is a transition matrix that allows us to answer this question. The numbers represent the transition matrix after the logs of parental and child wealth are adjusted for age, income, and portfolio choice. For easy comparability, we present in brackets the transition matrix shown earlier in which log parental and child log wealth are adjusted only for age.

The table shows that the effect of income and portfolio choice sum-

[13] With the inclusion of all these controls, the coefficient on parental wealth fell to 0.101, a 72 percent decline from the raw, age-adjusted intergenerational wealth elasticity.

TABLE 5
Intergenerational Transition Matrix of Age-Adjusted Log Wealth, after Lifetime Income and Asset Composition Are Controlled For

Child Adjusted Log Wealth Quintile (1999)	Parental Adjusted Log Wealth Quintile (1984–89)				
	1	2	3	4	5
1	23	25	20	15	17
	[36]	[26]	[16]	[15]	[11]
2	21	17	25	17	20
	[29]	[24]	[21]	[13]	[16]
3	18	19	20	21	22
	[16]	[24]	[25]	[20]	[14]
4	21	21	20	21	17
	[12]	[15]	[24]	[26]	[24]
5	17	19	15	25	24
	[7]	[12]	[15]	[26]	[36]
Total	100	100	100	100	100

Note.—The similarity in age, income, and portfolio composition adjusted wealth positions is reported first. The similarity in age-adjusted wealth positions is in brackets. See the note to table 1 for a description of the sample (1,491 parent-child pairs). Each element of the matrix above, π_{ab}, indicates the probability (in percent) that a child belongs to the *a*th quintile of the distribution for children, given that her parents belong to the *b*th quintile of the parental distribution. The entries sum to one along the columns. To get adjusted wealth measures, we ran separate first-stage OLS regressions for both parents and children of log wealth on age and age squared, measures of actual and predicted lifetime family labor income, and binary variables denoting whether the household owned a home, stocks, or a business. The first-stage child (parent) regression included only child (parent) controls. The correlation of the *residuals* from the first-stage regression is presented in this table. The likelihood ratio χ^2 statistic that each cell is equal to the other for the unadjusted wealth entries is $\chi^2 = 34.7$ (*p*-value <.004).

marized in table 4 applies throughout the distribution. Relative to the raw age-adjusted entries in brackets, most of which are dramatically different from 0.2, once income and portfolio choice are accounted for, the transition matrix becomes close to what we would expect if there were random sorting. For example, whereas parents in the fifth quintile of the age-adjusted parental log wealth distribution had only an 11 percent chance of having a child in the lowest quintile of the child wealth distribution, much of this results from income and portfolio choices. When they are accounted for, column 5 of the table shows that the probability that a "rich" parent has a "poor" child is 17 percent. At the other extreme, when income and portfolio choices are ignored, parents in the lowest quintile have a 36 percent chance of having their child in the same position in the children's wealth distribution. Adjusting for income and portfolio choices causes this probability to fall by 13 percentage points to only 23 percent.[14]

Overall, table 5 reinforces the main lesson from table 4: that much of the measured association in wealth between parents and children vanishes once income and portfolio choice are accounted for. And, the transition matrix also shows that a significant fraction of the wealth elasticity remains unexplained after we account not only for income

[14] Notice that the χ^2 test for the first entry in table 5 rejects random sorting.

and portfolio choice but for expected bequests, past gifts, and education as well.

V. The Role of Preferences

Apart from the factors assessed in the decomposition in the previous section, theoretical models emphasize the role of preferences such as discount rates and risk tolerance in determining wealth holdings. Might saving preferences be the factor that accounts for the unexplained portion of the intergenerational wealth elasticity?

Parents and children share genes and, for at least part of their lives, live in the same environment. There is thus reason to suspect that their preferences should be similar. But even if parents' and children's preferences are related, is not the effect of this relationship on the intergenerational wealth elasticity subsumed in the decompositions above that control for parent and child asset choice? This would be true only if any similarity in preferences between parents and children (*a*) was a significant determinant of parents' and children's tendencies to own a similar portfolio and (*b*) affected the intergenerational wealth relationship only through its effect on asset holdings.

Disentangling these issues is difficult, chiefly because data on "preferences" are not usually available in survey data. However, new experimental data available in the PSID allow us to assess how a particular set of preferences is related between parents and children, the impact of preferences on portfolio choice, and the effect of preferences on the intergenerational wealth elasticity.

We use data from a 1996 supplement to the PSID that measures respondents' risk tolerance. The risk tolerance questions were asked only of working PSID respondents in the 1996 survey. Because of this restriction, the sample used to analyze the similarity in risk tolerance is different from the samples used in the analyses above. From the original sample, there were 781 parents and 1,316 children eligible to answer the risk tolerance question. The sample size for parents is smaller because a greater proportion of them were retired as of 1996 (even though they were working when we measured their wealth in 1984 and 1989). The new sample, a subset of the original sample, had 583 parent-child pairs in which both parent and child provided nonmissing answers to the risk tolerance questions.

The risk tolerance question in the PSID is as follows:

> Suppose you had a job that guaranteed you income for life equal to your current, total income. And that job was (your/your family's) only source of income. Then you are given the opportunity to take a new, and equally good job with a 50–50

> chance that it will cut your income by a third or, on the other hand, it could double your income with a 50–50 probability. Would you take that new job?

On the basis of their responses to this question, respondents are asked a series of follow-up questions about jobs that double income with a 50 percent probability or cut income by 10 percent, 20 percent, 50 percent, or 75 percent with a 50 percent probability. Assuming a constant elasticity of substitution utility function and correcting for measurement error, Barsky et al. (1997) report the PSID's four distinct categories of risk tolerance based on the household's response.[15]

We classify a respondent's risk tolerance as "very low," "low," "medium," or "high" corresponding to the four categories the PSID reports. The proportion of children with very low, low, medium, and high risk tolerance measures were, respectively, 39 percent, 17 percent, 20 percent, and 24 percent. For parents, the corresponding proportions were 67 percent, 11 percent, 7 percent, and 15 percent.

The risk tolerance measures in the PSID were computed from an identical set of questions and a procedure identical to that used by Barsky et al. (1997) with data from the Health and Retirement Study. Barsky et al. summarize how the risk tolerance parameters are computed and show that they predict risky behaviors in the Health and Retirement Study. Consistent with the results reported above, they also find that risk tolerance falls with age.

Table 6 examines how risk tolerance is related between parents and children. It presents linear probability estimates of the likelihood that a child belongs to a risk tolerance category, given the risk tolerance of his parents. In all the regressions, parents in the very low risk tolerance category are the omitted group. The results in the columns labeled A come from regressions of child risk tolerance on parental risk tolerance and no other controls. The table reveals substantial raw similarity in risk tolerance between parents and children, especially at the tails. Children with a very low risk tolerance are least likely to have parents whose tolerance is high. Children with high risk tolerance are almost 16 percentage points more likely to have parents whose risk tolerance is high rather than very low. Given that the base probability that a child has a high risk tolerance is 24 percent, this effect is quite large. Notice that children with low and medium levels of risk tolerance have no statistical relationship to their parent's risk tolerance measure. The same basic pattern is evident in columns B of the table, where the regression also

[15] Under the assumption of constant elasticity of substitution preferences, the four risk tolerance categories ("very low," "low," "medium," and "high") correspond to estimated risk aversion measures of 6.67, 3.57, 2.86, and 1.75, respectively. See Barsky et al. (1997) for a discussion of how the measures were calculated.

TABLE 6
Linear Probability Estimates of the Relationship between Child and Parent Risk Tolerance Categories

Parental Risk Tolerance (Dummy)	Child Risk Tolerance Measure: Very Low A	Very Low B	Low A	Low B	Medium A	Medium B	High A	High B
Low risk tolerance	.059	.064	.008	−.021	−.054	−.042	−.012	−.001
	(.065)	(.066)	(.051)	(.052)	(.054)	(.054)	(.057)	(.058)
Medium risk tolerance	−.117	−.125	.072	.039	.081	.107	−.037	−.021
	(.079)	(.083)	(.062)	(.065)	(.065)	(.068)	(.069)	(.072)
High risk tolerance	−.138	−.098	−.005	−.013	−.010	−.012	.154	.123
	(.057)	(.057)	(.045)	(.047)	(.047)	(.049)	(.050)	(.053)

Note.—The regression reported in this table is a linear probability regression of the child risk tolerance category as a function of parental risk tolerance categories *without* wealth, income, and demographic controls (col. A) and *with* wealth, income, and demographic controls (col. B). The sample includes all persons in the "main" sample defined in the note to table 1 who also responded to "risk tolerance" questions asked of persons working in 1996. The subsample consists of 583 parent-child pairs. The percentages of children with very low, low, medium, and high risk tolerance are, respectively, 0.39, 0.17, 0.20, and 0.24. Standard errors for the regressions (in parentheses) are robust to heteroskedasticity and within-family correlation.

controls for the child's age, education, predicted and actual income, and wealth.

The results are quite striking. The risk tolerance measures are derived from hypothetical questions posed to parents and their adult children. These people do not live in the same home and, in general, had not done so for a long time by the date on which the questions were posed. Yet we find that their stated willingness to undertake hypothetical gambles is correlated.

How much of the tendency for parents and children to own the same assets derives from their having similar preferences? Table 7 presents a series of regressions showing a child's propensity to hold various assets for households that answered the risk tolerance questions. Reassuringly, the basic results about the intergenerational tendency to own assets, presented in columns A and B of each section, are virtually identical to the results shown earlier for the entire sample. There is a raw parent-child similarity in stock ownership that no longer exists once income is controlled for. Business and home ownership are correlated between parents and children, even after income is controlled for.

The last regression for each of the assets adds controls for parent and child risk tolerance categories. We show only the results for the child risk tolerance measures to show whether these measures have any predictive power for the child's portfolio choice decisions. If the measures mean anything, people with higher levels of risk tolerance should be more likely to invest in riskier assets such as stocks and businesses. The results are very consistent with this prediction. For both stocks and

TABLE 7
INTERGENERATIONAL SIMILARITY IN PORTFOLIO COMPOSITION AND RISK TOLERANCE

	CHILD OWNS STOCK? (1)			CHILD OWNS BUSINESS? (2)			CHILD OWNS HOME? (3)		
	A	B	C	A	B	C	A	B	C
Parent owns stock	**.133**	.057	.058						
	(.039)	(.041)	(.041)						
Parent owns business				**.110**	**.081**	**.065**			
				(.033)	(.034)	(.034)			
Parent owns home							**.245**	**.145**	**.147**
							(.073)	(.072)	(.073)
Child is low risk tolerance			−.027			.066			−.088
			(.054)			(.046)			(.052)
Child is medium risk tolerance			**.186**			**.120**			.028
			(.051)			(.044)			(.049)
Child is high risk tolerance			−.021			**.087**			−.009
			(.049)			(.042)			(.046)
Parent and child age controls*	yes	yes	yes	yes	yes	yes	yes	yes	yes
Parent and child income controls†	no	yes	yes	no	yes	yes	no	yes	yes
Parent and child risk tolerance controls‡	no	no	yes	no	no	yes	no	no	yes
Adjusted R^2	.030	.115	.138	.029	.062	.072	.087	.180	.181

NOTE.—This table reports the linear probability regression results of child portfolio ownership on parental portfolio ownership with and without income and risk tolerance controls. The sample is a subsample of the "main" sample of the analysis described in the note to table 1. The additional restrictions imposed are that both parent and child had to have been working in 1996 and had to give nonmissing responses to the risk tolerance questions (583 parent-child pairs). See the text for a discussion. The base probabilities that the child owns stock, a business, or a house are, respectively, .350, .186, and .691. Standard errors for the regressions (in parentheses) are robust to heteroskedasticity and within-family correlation. Coefficients in bold are significant at the 5 percent level.

* Age controls include age and age squared of both parent and child.

† Income and education controls include all human capital and income controls described in the note to table 4.

‡ Risk tolerance controls include the three risk tolerance categories (low, medium, and high) for both parents and children. The omitted group was very low for both groups.

business ownership, persons with higher risk tolerance are more likely to make these investments, relative to the excluded category of very low risk tolerance. For business ownership in particular, the estimated effects are strongly statistically significant. Children with the highest level of risk tolerance are 7.3 percentage points more likely to own a business, an increase of 50 percent over the mean child business ownership rates. With stock ownership, children with medium and high risk tolerance were also far more likely to own stocks than children with very low risk tolerance, although only the group with medium risk tolerance was not statistically different from zero. The results for home ownership—a relatively safe investment—are also consistent with what we would predict, in that there is no statistically significant effect of risk tolerance on home ownership.

If the intergenerational tendency to own assets is driven by risk tolerance, the addition of parental and child risk tolerance measures should dramatically lower the estimated effect of parental asset ownership on a child's asset ownership. The results show that for business and stock ownership, the effect of the parental asset ownership is reduced only slightly when risk tolerance is controlled for. For the other two assets, the risk tolerance measures do not lower the estimated intergenerational relationship in ownership at all. These results suggest that risk preferences explain little of the parent-child tendency to own the same asset. To be sure, preferences other than those for risk affect whether people buy particular assets. Discount rates, for example, likely matter as well. And, it is possible that were there information on these other preferences available in the data, we might find that they explain the remainder of the parent-child asset relationship.

However, another equally plausible explanation is that children make particular investment decisions because of mimicry. Parents who invest in particular assets provide an example that their children follow, irrespective of similarities or differences in preferences between parents and children.[16] The example need not be passive. Parents who own a business can teach their children about the skills needed to run a business and may encourage them to take over the business or start one of their own. The key point is that it is parental ownership of the asset that raises the child's propensity to do the same, not the fact that their preferences are similar.

Because the parent-child similarity in risk preferences does not ap-

[16] One other possibility is that some other behavior that determines the types of assets people buy is similar between parents and children. For example, it may be that fathers and sons tend to marry similar women whose patterns of work make the family unit want to hold more risk. Or, alternatively, fathers and sons may have similar expected life spans. As with the results earlier, these results are robust to the inclusion of parent and child race, marital status, health, location, and family demographic controls.

TABLE 8
Decomposition of Intergenerational Wealth Elasticity, Including Effect of Preferences

	Estimated Elasticity	Fraction of Elasticity Explained (%)	Adjusted R^2
Intergenerational wealth elasticity, controlling for only age	.357 (.041)	…	.102
Intergenerational wealth elasticity, controlling for age and:			
Actual and predicted income	.205 (.408)	42.6	.304
Actual and predicted income and portfolio choice	.108 (.042)	69.7	.555
Actual and predicted income, portfolio choice, education, past transfers, and expected bequests	.06 (.045)	83.2	.571
Actual and predicted income, portfolio choice, education, past transfers, expected bequests, and preferences	.049 (.045)	86.3	.580

Note.—The sample is a subsample of the main sample of the analysis described in the note to table 1. The additional restriction imposed is that both parent and child had to have been working in 1996 and had to give nonmissing responses to the risk tolerance questions (583 parent-child pairs). See the text for a discussion. The income controls include all the actual and predicted income controls described in the text (including a quadratic in actual income and age interacted with the actual and predicted income measures). Standard errors for the regressions (in parentheses) are robust to heteroskedasticity and within-family correlation.

preciably affect the parent-child asset ownership relationship, any effect of risk preferences on the intergenerational wealth elasticity will not be captured by the controls for asset composition in the decompositions presented in the previous section. Table 8 decomposes the intergenerational wealth elasticity for the subsample that responds to the risk tolerance questions to see how much of the relationship preferences explain, beyond the factors we have thus far studied. We emphasize that this decomposition pertains to the "risk tolerance" subsample.

The first row of the table shows that the intergenerational correlation in age-adjusted log wealth in this sample of 0.357 is very close to that estimated in the full sample. In row 2, adding the full set of income controls discussed earlier explains about 43 percent of the elasticity. This effect is about nine percentage points smaller than the results in the full sample, but income remains the most important source of the wealth correlation in the restricted sample. Row 3 controls for parent and child income and portfolio composition. As in the full sample, these two factors together explain a substantial portion of the wealth elasticity, though the estimate of 70 percent in this subsample is slightly larger than what they account for in the full sample. The fourth row adds all the variables previously studied: income, portfolio choice, education, expected bequests, and previous gifts. In this subsample, these factors explain substantially more of the intergenerational wealth elasticity than is true for the full sample. Nonetheless, about 17 percent of the elasticity remains unexplained.

The final row adds parent and child preferences to the set of controls. The risk tolerance measures explain only an additional 3 percent of the wealth elasticity in the restricted subsample. These results suggest that, while shared preferences do explain a small portion of the intergenerational wealth elasticity, the effect is dwarfed by the explanatory effect of other factors. Two cautionary notes should be made about this interpretation, however.

First, risk tolerance is only one type of preference. It is possible that some other type of preference about which we have no information might explain more of the remaining wealth relationship. Second, the decomposition in table 8 refers to a subsample that differs from the original data set in certain systematic ways such as the ages of parents and children. Because all the persons in that larger sample did not respond to the risk tolerance sample, we simply cannot conclude for certain whether the effects discussed in this section apply to the sample as a whole.

Whether we use the full sample or the subsample, income is by far the most important factor in explaining the intergenerational wealth elasticity. Portfolio composition is the next most important factor. The strong correlation in portfolio choice is not determined by income, wealth, and, in the subsample, risk tolerance. Parental example and mimicry appear the most likely explanations for this association. However, we cannot rule out the fact that parents and children share some other preferences that determine savings behavior, such as rates of time preference. But we can rule out the similarity in risk tolerance as an explanation. Even though parents and children have similar preferences for risk, we find little independent effect of risk tolerance on the intergenerational wealth elasticity or the intergenerational similarity in portfolio composition.

VI. Conclusion

There has been much recent interest in the intergenerational transmission of economic status, but research on the parent-child wealth association has been sparse. This paper documents the relationship between the wealth held by parents and children. In addition, it analyzes alternative explanations for the relationship, shedding light on the importance of different factors that have been discussed in the theoretical literature but about which there has been little previous empirical evidence.

Using data from the PSID, we document substantial intergenerational persistence in wealth. The age-adjusted elasticity of child's wealth with respect to parent's wealth is around 0.37. These intergenerational relationships are large, especially since we focus only on households that have not yet received bequests from their parents. Results from transition matrices indicate that much of this persistence arises from what occurs in the tails: children of very low wealth or very high wealth parents rarely end with wealth substantially different from their parents'.

We assess alternative accounts for this persistence. We construct indices for the level, expected growth, and expected future variance of income, the aspects of income that the theoretical literature has emphasized as being important for household wealth accumulation. We find that these income measures explain over one-half of the intergenerational wealth correlation at the mean and virtually all of it in the middle of the wealth distribution. Income's effect is by far the largest of the possible explanations we study. Over one-half of the wealth correlation is attributable to income, and controlling for income almost completely removes the relative intergenerational persistence in the middle of the wealth distribution. And, the effect of other factors such as previous gifts, education, and expected bequests is very small once income is accounted for. That we find only a modest effect of education once income is controlled for is particularly noteworthy, since previous authors have speculated that wealthy parents principally transfer their position by easing liquidity constraints that their children face in financing schooling.

Despite its very large effect, income does not fully account for the parent-child wealth persistence. Theory suggests that parent and child savings propensities are a possible important explanation in a sample in which bequests have not yet been received. We find that parents and children allocate their portfolios quite similarly, even after both the income and wealth of parents and children are controlled for. We show that this tendency is, apart from income, the next most important reason why wealth tends to be similar across generations. Using only these income and portfolio allocation measures, we can account for between two-thirds and 70 percent of the parent-child wealth relationship.

Why portfolios are similar between parents and children is a question on which we shed some light. We find that having wealthy parents may allow children to undertake investment decisions such as stock ownership. But this effect does not hold for other assets, such as business ownership. In general, the fact that a parent owns an asset is enough to predict that the child will as well. It would generally be impossible to disentangle if the reason is that children (1) mimic or learn from their parents or (2) share preferences such as risk tolerance. However, using new experimental data in the PSID on risk tolerances, we explicitly address this question.

In Section V of the paper, we showed that preferences are, in fact, correlated across generations, especially at the tails of the risk tolerance distribution. Moreover, for both parents and children, asset ownership varies in a predictable fashion with attitudes toward risk. But the parent-child similarity in asset composition is not affected with the addition of risk tolerance controls. This suggests either that some preference other than prudence matters or that children learn from or mimic their parents' savings behaviors, irrespective of the similarity in their preferences. We find further that risk tolerance explains only a very modest portion of the intergenerational wealth association, once asset composition and income are accounted for. Nonetheless, the other results about preferences suggest that analyzing the role that parents play in shaping child preferences is a very interesting area for future research.

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