The Correlation of Wealth Across Generations*

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Abstract

This paper examines the similarity in wealth between parents and their children, and explores alternative explanations for this relationship. 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 ownership of particular assets, both of which exhibit strong intergeneration similarity, jointly explain nearly two-thirds of the wealth elasticity. Education, past parental transfers, and expected future bequests account for little of the remaining elasticity. Using new experimental evidence, we assess the importance of risk tolerance. The risk tolerance measures vary as theory would predict with the ownership of risky assets, and are highly correlated between parents and children. However, they explain little of the intergenerational correlation 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. Additionally, these risk tolerance measures explain only a small part of the remaining intergenerational wealth elasticity. 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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1. 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 savings propensities? 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 parents' 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 fifty percent above the mean in the parents' generation have children whose wealth is eighteen percent above the mean in the children's generation.

We estimate the intergenerational wealth elasticity from a sample where 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 pre-bequest relationship? Because a child who receives bequests from his parents will do so only upon their deaths, someone born to parents in their mid-twenties may be well into his fifties before he receives a bequest from them. The pre-bequest 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 controlling for income. Portfolio composition is different. We find that controlling for the types of assets that parents and children hold accounts, by itself, for thirty-six percent of the intergenerational wealth elasticity, and for eleven percent of the elasticity once income is already accounted for.

Almost thirty-five percent of the intergenerational wealth elasticity remains unexplained after controlling for income, asset ownership propensity, education, gifts and expected bequests. What are the other mechanisms for wealth transmission? Preferences are a possible candidate. In the final portion of the paper, 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 controlling for income and asset ownership. There is thus a residual portion of the parent-child wealth relationship which 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 (See Krugman (2002)). Age adjusted parental wealth, by itself, explains less than ten percent of the variation in age adjusted child wealth. Furthermore, twenty 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 sizeable 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 sub-populations drawn from late 19th and early 20th century.[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. Mulligan, however, does not attempt to separate between different explanations for the parent-child wealth relationship.

Of the intergenerational relationships which can affect the similarity in parent-child wealth, the one which 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 their log parents'

[1] Menchik (1979), Kearl and Pope (1986) and Wahl (1995) relate child and parent 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), Ham and Mulligan (2000) and Shea

earnings is between 0.4 and 0.6, after accounting for measurement error (Mulligan (1997) and 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 (Lawrence (1991), Barksy, Juster, Kimball and Shapiro (1996), Samwick (1998) and 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 which tracks the socio and economic 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 detailed 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

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(2000). Cox, Ng, and Waldkirch (2001) document intergenerational consumption linkages. Altonji, Hayashi and Kotlikoff (1992) test for whether parents are altruistic towards 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) and Friedman (1957). Extensions to the basic model argue that the expected future variance of income matters as well (Deaton (1991), Carroll (1994)).

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, certificate 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 provides 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 who were not retired in 1984 and 1989 when parental wealth is measured. We emphasize non-retirement status in order to capture households during the time in their life cycles when 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

[4] See Hurst, Luoh and Stafford (1998) and Juster, Smith and Stafford (1999) for a complete description of the *PSID* wealth data and discussion of how the data compares 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 fifteen years apart.

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 *PSIID* survey, there were only 70 parent-child pairs in which both non-retired parents in 1984 were known to have died. Studying the effect of bequests on the intergenerational wealth relationship in datasets like 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% of the children and less than 1% 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 presents the means and standard deviation 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 which 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.

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[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 were could not determine whether the parents had died during the intervening years. We estimated all of the regressions with and without these households included and the results were essentially unchanged.

The last four rows in the table reveal the extreme skewness of the wealth distribution. For example, among children, the difference between the 20th and 40th percentile is about $50,000, whereas the difference between the 60th and 80th percentile 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:

$$W_k = \alpha + \delta_1 W_p + \alpha_{1k} Age_k + \alpha_{2k} Age_k^2 + \alpha_{1p} Age_p + \alpha_{2p} Age_p^2 + \varepsilon_k \qquad (1)$$

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 is 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 mis-measured 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]

[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.

Henceforth, the parental wealth measure is the average of parental wealth over the 1984 and 1989 survey years.

Estimating (1) by 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 which is 3.7 percent above the mean in the children's generation.[8] However, parental wealth explains less than ten percent of the variation in child wealth, after controlling for parent and child age. 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

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

regression. Reading down the first column, for example, the matrix indicates that 36.1% 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 parent's 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% 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 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 seventy-percent have children whose wealth places them in the top two wealth quintiles. However, comparable to the low end of the distribution, 11% 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 further away that quintile is from the parents'. 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 chi-squared 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 < 0.001). However, the wealth of a child 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 both higher levels of 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 cites 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 to 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 parent's 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 so 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 thirty-two percentage points more likely to be a have college training – a very large marginal effect given the mean college training rate among children is fifty-six percent.

The next set of entries in Table 3 show the intergenerational similarity in asset ownership. The results indicate that having a parent who owns either stocks, a businesses 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 of the assets, represents a large increase over the mean rate of asset ownership.

The association in asset ownership propensity may be 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 controlling for income.[9] By contrast, the intergenerational correlation in stock ownership can be explained away once controlling for parent and child incomes. 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 above discussion in mind, we re-estimate regression (1) with additional parent and child controls Z, including income, education, and portfolio composition,

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

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, for example, 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

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

child may gain a higher education or income, and end up wealthy. However, these variables can only lower the coefficient δ_2 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_1 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 wealth. 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 over the years 1983-1987, while for children it is over the years 1992-1996.[10] To capture potential non-linearities 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 of 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 of the data in the *PSID* for the sample years 1980 to 1997 for non-retired persons aged between 25 and 64 in the particular year. Within race, sex, occupation

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

and educational cells, we then estimate regressions of annual family labor income on age and age squared. We used 9 occupational categories, 3 education classes (less than high school, exactly high school and more than high school), white and non-white 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 as cell, c, earned at 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, $\hat{Y}_{c,lifetime\ level}$, we sum the family labor income at every age in each cell, $\hat{Y}_{c,A}$, from $A = 25$ to $A = 64$. Specifically,

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

To proxy for future income growth, we compute the fraction of lifetime income which the person is predicted to receive beyond the last age 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, $\hat{Y}_{c,A^*,growth\ rate}$, is measured as:

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

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

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 their 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% 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 1 if the parent reported that they 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 that they received. We use this report as the measure of previous gifts. One obvious limitation of the gift measure is that small gifts are not recorded. Unfortunately, this is only information about past gifts received in the data. However, given the size of parental wealth for most households, these 5-year total gift measures likely capture all non-trivial parental wealth transfers.

Tables 4 reports the decomposition of the intergenerational wealth elasticity. There are five columns in the table. The first column of numbers 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 first column of the table. The third column reports how much of the overall elasticity is accounted for by the particular factors, in the sense described earlier. The fourth column, 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*-squared statistic for the associated regression is in the last column.

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, fifty-two 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 twenty-eight 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% of the raw age-adjusted elasticity. The effect of portfolio choice is much larger. The final row in the first panel shows that thirty-six 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 of the additional controls are functions of child and parental income. The third column of Panel B of Table 4 assesses how much of the age adjusted intergenerational wealth elasticity is explained by different factors, after controlling for income. The second row of Panel B shows that controlling for parental and child education when income is already accounted for only changes the estimated elasticity by 0.008 percentage points. This implies that education only explains an additional 2% 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: these explain only an additional 4 percent of the wealth relationship. These results show that virtually all of 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, explains 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% of the raw age-adjusted elasticity. The powerful effect of income and portfolio choice is reinforced by the results from the last panel, in which we simultaneously control for all of the factors. All of the factors together account for sixty-five 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 which 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*-squared statistics reported in the last column of the table may be of independent interest. Parental wealth and age controls explain only about ten percent of the variation in child wealth. Parental wealth alone (not reported) explains even less – only eight 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 sizeable amount of intergenerational fluidity across generations. Knowing parental wealth tells us something, but not everything, about their child's 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 thirty percent of the variation in child wealth. Adding other variables only very modestly improve the model's fit. Portfolio composition is the exception. This variable, along with parental wealth, age and income controls explains nearly half (49.2%) 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 end of the distributions? Table 5 is a transition matrix which allows us to answer this question. The numbers in bold face represent the transition matrix after the log of parental and child wealth are adjusted for age, income and portfolio choice. For easy comparability, we present in italics the transition matrix shown earlier in which log parental and child log wealth is adjusted only for age.

The table shows that the effect of income and portfolio choice summarized in Table 4 applies throughout the distribution. Relative to the raw age adjusted entries in italics, most of which are dramatically different from 0.2, once income and portfolio choice are accounted for, the transition

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

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 a 11 percent chance of having in a child in the lowest quintile of the child wealth distribution, much of this is because of income and portfolio choices. When these are accounted for, the fifth column of the table shows that the probability of a "rich" parent having a "poor" child is 17 percent. At the other extreme, when income and portfolio choices are ignored, parents in the lowest quintile have a thirty-six 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 thirteen percentage points to only twenty-three 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 accounting not only for income and portfolio choice, but 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 which 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 which control for parent

[14] Notice that the chi-squared test for the first entry in Table 5 rejects random sorting.

and child asset choice? This would only be true if any similarity in preferences between parents and children: (a) was a significant determinant of parents' and children's tendencies to own to the 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* allows 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* which measures respondents' risk tolerance. The risk tolerance questions were only asked 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 above analyses. 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 where both parent and child provided non-missing answers to the risk tolerance questions.

The risk tolerance question in the *PSID* is:

> "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?"

Based on 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 either cut income by, 10%, 20%, 50%, or 75% with a 50 percent probability. Assuming a CES utility function and correcting for measurement error, the *PSID* reports 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%, 17%, 20% and 24%. For parents, the corresponding proportions were 67%, 11%, 7% and 15%.

The risk tolerance measures in the *PSID* were computed from an identical set of questions and an identical procedure to that used by Barsky et. al (1997) with data from the Health and Retirement Study (*HRS*). Barsky et. al summarize how the risk tolerance parameters are computed and show that they predict risky behaviors in the *HRS*. 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 of the regressions, parents in the "very low" risk tolerance category are the omitted group. The results in the columns labeled A are 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 twenty-four 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

[15] Assuming CES 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 (1996) for a discussion of how the measures were calculated.

measure. The same basic pattern is evident in columns B of the table, where the regression also 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 question 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 that 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 them having similar preferences? Table 7 presents a series of regression 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 the first two columns 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 which no longer exists once controlling for income. Business and home ownership are correlated between parents and children, even after controlling for income.

The last regression for each of the assets adds controls for parent and child risk tolerance categories. We only show 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 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% 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 medium risk tolerance group 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 which 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

[16] One other possibility is that some other behavior, which determines the types of assets people buy, are 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.

one of their own. The key point is that it is parental ownership of the asset which 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 appreciably 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 sub sample which 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 is on the "risk tolerance" sub-sample.

The first row of the table shows that the intergenerational correlation in age-adjusted log wealth in this sample of 0.362 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% of the elasticity. This effect is about 9 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 seventy percent in this sub sample is slightly larger than what they account for in the full sample. The fourth row adds all of the variables previously studied: income, portfolio choice, education, expected bequests, and previous gifts. In this sub-sample, these factors explain substantially more of the intergenerational wealth elasticity than is true for the full sample. Nonetheless, about seventeen 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 three percent of the wealth elasticity in the restricted sub-sample. 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 is from a sub-sample which differs from the original dataset in certain systematic ways like the ages of parents and children. Because all of 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 sub sample, 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 sub sample, risk tolerance. Parental example and mimicry appears the most likely explanation for this association. However, we cannot rule out the fact that parents and children share some other preferences which 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 intergeneration 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 which 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 parents' wealth is around 0.37. These intergenerational relationships are large, especially since we only focus on households who 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 which the theoretical literature has emphasized as being important for household wealth accumulation. We find that these income measures explain over one-half of the intergeneration 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, as 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 as a possible important explanation, in a sample where bequests have not yet been received. We find that parents and children allocate their portfolios quite similarly, even after controlling for both the income and wealth of parents and children. 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 seventy 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 like 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 this is because 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 the final section of the paper, we show 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 and/or mimic their parents' savings behaviors, irrespective of the similarity in their preferences. We find further that risk tolerance only explains 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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Table 1: Means of Wealth and Demographic Variables for *PSID* Parent-Child Sample

Variable	*Children (1999)*	*Parents(1984-1989)*
Age	37.5	52.0
	(7.1)	(7.8)
Average Family Labor Income	57,200	70,400
	(50,800)	(60,700)
Percent Owning Stocks	0.313	0.503
	(0.464)	(0.500)
Percent Owning a Home	0.688	0.919
	(0.464)	(0.276)
Percent Owning a Business	0.169	0.300
	(0.374)	(0.458)
20^{th} Percentile of Wealth	39,225	49,635
40^{th} Percentile of Wealth	88,731	99,369
60^{th} Percentile of Wealth	162,728	174,889
80^{th} Percentile of Wealth	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 survey in 1984-1989 and alive in 1989, b) the child was in survey 1999, c) the head of the parent's family was not retired and 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 parents had positive wealth when measured. There were 1,491 such parent-child pairs. All data in this table and all subsequent tables weighted using *PSID* core sample weights. All dollar amounts in this table, and all subsequent tables, are in 1996 dollars. Standard deviations are in parentheses.

Table 2: Intergenerational Transition Matrix of Age-Adjusted Log Wealth Position

	Parental Age-Adjusted Log Wealth Quintile (1984-1989)				
Child Age-Adjusted Log Wealth Quintile (1999)	*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 footnote to Table 1 for sample description (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 age-adjusted wealth measures, both parent and children'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 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 < 0.001).

Table 3: Similarity in Parent-Child Income, Human Capital and Portfolio Composition (1,491 Parent-Child Pairs)

	I	II
Child Outcome Measure (Dependent Variable)	*Coefficient on Corresponding Parental Outcome Variable (γ_1)*	*Mean of Dependent Variable*
Income [a]		
Child's Family Log Labor Income	0.301 (0.025)	10.7
Education [b]		
1. Head of Child's Family has Education < 12	0.098 (0.016)	0.084
2. Head of Child's Family has Education =12	0.043 (0.034)	0.355
3. Head of Child's Family has Education > 12	0.325 (0.025)	0.561
Asset Ownership [c]		
1. Dummy: Child Owns Stock	0.162 (0.022)	0.313
2. Dummy: Child Owns Business	0.096 (0.018)	0.169
3. Dummy: Child Owns Home	0.167 (0.040)	0.688
Asset Ownership, Net of Income and Education [d]		
4. Dummy: Child Owns Stock	0.028 (0.022)	0.313
5. Dummy: Child Owns Business	0.073 (0.018)	0.169
6. Dummy: Child Owns Home	0.089 (0.039)	0.688

Note. - 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 footnote to Table 1 for sample description (1,491 parent-child pairs). Standard errors for the regressions (in parenthesis) are robust to heteroskedasticity and within-family correlation

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

[b] Education is measured with a dummy variable equal to 1 indicating if the head of the household attained m years of schooling (for $m < 12$, $m = 12$, and $m > 12$).

[c] Asset Ownership is measured with a dummy variable which takes the value of 1 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.

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

Table 4: Decomposition of Intergenerational Wealth Elasticity:

	Estimated Elasticity	*Fraction of Elasticity Explained*	*Additional Fraction of Elasticity Explained*	*Adjusted R-squared*
A.				
Wealth Elasticity, Controlling for Only Age	**0.365** **(0.028)**	**-----**	**-----**	**0.102**
Wealth Elasticity, Controlling for Age and:				
Actual and Predicted Income	0.175 (0.032)	52.1%	-----	0.304
Education	0.263 (0.030)	28.0%	-----	0.154
Past Transfers and Expected Bequests	0.303 (0.032)	16.9%	-----	0.112
Portfolio Composition	0.232 (0.031)	36.4%	-----	0.421
B.				
Wealth Elasticity, Controlling for Age, Income and:				
Education	0.167 (0.032)	54.3%	2.2%	0.310
Past Transfers and Expected Bequests	0.161 (0.034)	55.7%	3.6%	0.305
Portfolio Composition	0.133 (0.035)	63.6%	11.5%	0.490
Education, Past Transfers, Expected Bequests and Portfolio Composition	**0.129** **(0.037)**	**64.7%**	**12.6%**	**0.492**

Note.- See footnote to Table 1 for sample description (1,491 parent-child pairs). Table reports 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 text (including a quadratic in actual income and age interacted with the actual and predicted income measures). Standard errors for the regressions (in parenthesis) are robust to heteroskedasticity and within-family correlation.

Table 5: Intergenerational Transition Matrix of Age-Adjusted Log Wealth, After Controlling for Lifetime Income and Asset Composition.

Child Adjusted Log Wealth Quintile (1999)	*Parental Adjusted Log Wealth Quintile (1984-1989)* 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 are in bold. The similarity in age adjusted wealth positions are in italics. See Footnote to Table 1 for sample description (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 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 < 0.004).

Table 6: Linear Probability Estimates of Relationship Between Child and Parent Risk Tolerance Categories

	Child's Risk Tolerance Measure							
Regressors	*Very Low*		*Low*		*Medium*		*High*	
	A	B*	A	B*	A	B*	A	B*
Parental Risk Tolerance								
Dummy: Low Risk Tolerance	0.059	0.064	0.008	-0.021	-0.054	-0.042	-0.012	-0.001
	(0.065)	(0.066)	(0.051)	(0.052)	(0.054)	(0.054)	(0.057)	(0.058)
Dummy: Medium Risk Tolerance	-0.117	-0.125	0.072	0.039	0.081	0.107	-0.037	-0.021
	(0.079)	(0.083)	(0.062)	(0.065)	(0.065)	(0.068)	(0.069)	(0.072)
Dummy: High Risk Tolerance	**-0.138**	**-0.098**	-0.005	-0.013	-0.010	-0.012	**0.154**	**0.123**
	(0.057)	**(0.057)**	(0.045)	(0.047)	(0.047)	(0.049)	**(0.050)**	**(0.053)**

Note. - The regression reported in this table is a linear probability regression of child risk tolerance category as a function of parental risk tolerance categories *without* wealth, income and demographic controls (Column A) and *with* wealth, income and demographic controls (Column B). The sample includes all persons in the "main" sample defined in footnote to Table 1 who also responded to "risk tolerance" questions asked of persons working in 1996. Sub-sample consists of 583 parent-child pairs. Percent of children with 'very low', 'low', 'medium' and 'high' risk tolerance, respectively, 0.39, 0.17, 0.20, and 0.24. Coefficients in bold are significant at the 10 percent level. Standard errors for the regressions (in parenthesis) are robust to heteroskedasticity and within-family correlation.

Table 7: Intergenerational Similarity in Portfolio Composition and Risk Tolerance

	I. Child Owns Stock?			*II. Child Owns Business?*			*III. Child Owns Home?*		
	A	*B*	*C*	*A*	*B*	*C*	*A*	*B*	*C*
Parent Owns Stock	**0.133**	0.057	0.058						
	(0.039)	(0.041)	(0.041)						
Parental Owns Business				**0.110**	**0.081**	**0.065**			
				(0.033)	**(0.034)**	**(0.034)**			
Parental Owns Home							**0.245**	**0.145**	**0.147**
							(0.073)	**(0.072)**	**(0.073)**
Child is "Low" Risk Tolerance			-0.027			0.066			-0.088
			(0.054)			(0.046)			(0.052)
Child is "Medium" Risk Tolerance			**0.186**			**0.120**			0.028
			(0.051)			**(0.044)**			(0.049)
Child is "High" Risk Tolerance			-0.021			**0.087**			-0.009
			(0.049)			**(0.042)**			(0.046)
Parent and Child Age Controls [a]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parent and Child Income Controls [b]	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Parent and Child Risk Tolerance Controls [c]	No	No	Yes	No	No	Yes	No	No	Yes
Adjusted R-Squared	0.030	0.115	0.138	0.029	0.062	0.072	0.087	0.180	0.181

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. Sample is a sub sample of the 'main' sample of analysis described in the footnote for Tables 1. The additional restrictions imposed are that both parent and child had to have been working in 1996 and had to give non-missing responses to the risk tolerance questions (583 parent-child pairs). See text for a discussion. Base probability that the child owns stock, a business, or a house, respectively: 0.350, 0.186, and 0.691. Standard errors for the regressions (in parenthesis) are robust to heteroskedasticity and within-family correlation. Coefficients in bold are significant at the 5% level.

[a] Age controls include age and age squared of both parent and child.
[b] Income and Education controls include all human capital and income controls described in regression the footnotes to Table 4.
[c] Risk Tolerance controls include the hree risk tolerance categories ('low', 'medium' and 'high') for both parents and children. The omitted group was 'very low' for both groups.

Table 8: Decomposition of Intergenerational Wealth Elasticity, Including Effect of Preferences

	Estimated Elasticity	*Fraction of Elasticity Explained*	*Adjusted R-squared*
Intergenerational Wealth Elasticity, Controlling for Only Age	0.357 (0.041)	-----	0.102
Intergenerational Wealth Elasticity, Controlling for Age and:			
Actual and Predicted Income	0.205 (0.408)	42.6%	0.304
Actual and Predicted Income, Portfolio Choice	0.108 (0.042)	69.7%	0.555
Actual and Predicted Income, Portfolio Choice, Education, Past Transfers, Expected Bequests	0.06 (0.045)	83.2%	0.571
Actual and Predicted Income, Portfolio Choice, Education, Past Transfers, Expected Bequests and Preferences	0.049 (0.045)	86.3%	0.580

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