



**Family Background and
Children's Transitions to
Adulthood over Time**

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Family Background and Children's Transitions to Adulthood over Time

The transition to adulthood is almost by definition a process of breaking away from one's family of origin. Nevertheless, family background has an impact on the success of this transition. For example, Sandefur, Eggerling-Boeck and Park (2005) and Ellwood and Kane (2000) show that parental education and family income are positively correlated with the probability that a young adult pursues post-secondary education, and Hertz (2005) estimates that a son born into the top decile of the income distribution is 23 times more likely to end up in the top decile as an adult than a son born into the bottom decile.

Over the past thirty years there have been a number of social and economic changes that may have altered the impact parents have on the success with which their children approach adulthood. In this chapter we look at whether the importance of family background has changed over time. We compare various "markers" of adulthood for two cohorts who were coming of age in the mid 1970's and early 1990's. We look at whether early adult income levels, educational attainment, and the probability of starting one's own family differ by parental income and education, and ask how these differences have changed over time. Knowing the extent to which family influences are changing is an important part of understanding why today's youth are taking longer to reach traditional measures of adulthood than previous generations. There may be important policy considerations as well. For example, if the association between parental income and individual's own economic success is becoming stronger over time, and if this association is due to the changing impact of income itself, rather than the effects of other family characteristics that are correlated with income, then policies aimed at increasing the financial resources of poor families may also affect trends in youth's outcomes.

We come to three conclusions. First, consistent with studies that have looked at the relationship between parent's socioeconomic status and children's long-run outcomes, the likelihood of a successful transition to adulthood differs markedly across individuals who grew up in high and low income families and with high and low educated parents.¹ Second, there is little evidence that the influence of characteristics associated with parental income have changed over time. An exception to this general result is that relative to those who grew up in low income families, individuals who grew up in high income families seem to be delaying childbearing more than they did in the past. Third, the relationship between young adults' educational attainment and that of their parents appears to have become stronger over time. This is in marked contrast to the lack of a significant change between parental education and the next generation's income, and is somewhat surprising given the large increases in the wage returns to schooling that took place over this period.

Why Might Family Background Affect Youth Outcomes?

Many studies have documented a strong relationship between family background characteristics – particularly parental education and income – and young adults' socioeconomic outcomes (two of many examples include Duncan and Brooks-Gunn, 1997; and Settersten, Furstenberg and Rumbaut, 2005). Ellwood and Kane (2000) report that youth with similar academic credentials enroll in college at very different rates depending on their parents' income and education. Solon (1992) and others show that incomes of young men in their mid-to-late 20s are highly correlated with their father's income during childhood.

¹ Throughout this chapter, we measure parental education using the reported education of the household head.

Table 1 shows the likelihood of attaining several markers of adulthood by age 30,² according to the quartile distribution of family income when the individual was ages 14-17, for two cohorts of young adults. The first cohort was born between 1954-57, and the second cohort was born between 1970-73. For both cohorts, young adults' income and education levels increase dramatically as their family's income increases. Adult income is nearly twice as high for individuals whose parental income was in the top quartile, compared to those whose parental income was in the bottom quartile. Similarly, the probability that a child from the top quartile completes college is approximately four to seven times larger (depending on the cohort) than the probability that a child from the bottom quartile completes college. Marriage probabilities also increase with family income, though less steeply. The probability of becoming a parent, however, falls with parental income. This makes sense given the positive education correlation across generations; it is well known that more highly educated women delay childbearing.

There is also a strong association between parental education and young adults' outcomes. Family income and educational attainment among young adults increases monotonically with parental education. Among those born in the mid 1950's, those whose parents had at least 16 years of education had a 56% chance of completing college (16 or more years of schooling), whereas those whose parents were high school dropouts had a 10% probability of reaching this milestone. This pattern persists among individuals born fifteen years later. For both cohorts, marriage and fertility patterns across parental education categories are very similar to those for parental income.

Why does family socioeconomic status matter? The exact mechanisms by which family background affects the transition to adulthood are largely unknown, but are likely to include a number of factors such as role modeling, labor market connections, neighborhood influences and parents' ability to make monetary investments in their children. These monetary investments might include paying for high quality elementary and secondary schools (either by paying the higher cost of housing in neighborhoods with good public schools or by purchasing private schooling), paying for post-secondary education, or helping children with down payments for their own homes. Wealthier families may also be able provide a better safety net for their children when they fall into trouble either by bad luck (such as losing a job), or choice (such as being arrested for drug possession). Finally, the correlation between parents' socioeconomic status and young adult outcomes may also reflect the intergenerational transmission of genetic traits such as intelligence or motivation.

Why Might the Importance of Family Background be Changing Over Time?

In this chapter, we look at the relationship between family background and young adults' outcomes for two cohorts of youth. The first cohort was born during the mid 1950's, mostly grew up during the late 1950's, 1960's and early 1970's and entered their twenties during the late 1970's. The second cohort was born during the early 1970's, grew up during the late 1970's and 1980's and entered early adulthood during the first half of the 1990's. The two cohorts are approximately fifteen years apart, and the economic and social conditions under which these cohorts grew up and ultimately entered adulthood were very different. In particular, the late 1970's and 1980's were a period of increasing globalization and technological change, which have been associated with widening income inequality and increasing returns to skill. At the end of the 1970's male college graduates had earnings that were 35% higher than those with a high school diploma, whereas by the end of the 1980's the earnings differential was 53% (Gottshalk, 1997). This translated into a fall in the share of income going to individuals at the bottom of the income distribution and a rise in the share going to those at the top. High income parents tend to provide more resources to their children than low-income parents (Schoeni and Ross, 2005), so

² Our data source, the Panel Study of Income Dynamics, moved from yearly, to biennial collection of data beginning in 1997. Therefore, outcomes are observed at age 29 for some cohorts.

when inequality increases we might expect a widening in the dispersion of investments that parents can make in their children. Solon (2004) shows that if these investments are important to children's future success then, holding all else equal, rising inequality will result in a decline in intergenerational mobility. In other words, young adults from disadvantaged families will have a harder time escaping their parent's economic legacy.

Because this prediction rests upon the assumption that all else is equal, it is important to consider the possible influence of other family background characteristics that were changing at the same time that family incomes were becoming more unequal. Not only did the return to education change dramatically during the mid 1970's and 1980's, but the level of education nearly doubled. Recent research by Currie and Moretti (2003), Oreopolous, Page and Stevens (forthcoming), and Sacerdote (2005) suggests that childhood outcomes such as birthweight and grade-for-age—which are predictive of socioeconomic success later in life—are positively related to parents' education levels. Changes in parents' schooling may, therefore, have affected both the level and nature of parental investments that ultimately affect the success with which young adults make the transition into adulthood.

The probability of growing up in a single parent family also rose steadily over this period (Wu and Li, 2005). Adolescents who have spent time in non-intact families are worse off, on average, than those who grew up in a household with both of their biological parents (McLanahan and Sandefur, 1994), and this may subsequently affect their prospects as young adults. Other changes in children's family environments include declines in family size, increases in mothers' labor force participation, and the deterioration of inner-city neighborhoods.

All of these changes may have affected parents' desires and abilities to invest in their children. At the same time, there have been enormous increases in government expenditures on behalf of children, which may have counteracted some of the disadvantages of growing up in a low-income family. Examples of such programs include Head Start, the Special Supplemental Nutrition Program for Women Infants and Children, Medicaid and the School Lunch and School Breakfast program. The federal government has also become more involved in education. Between the early 1970's and early 1990's, per pupil spending on public education increased by over 50% and became more equally distributed across school districts. The Pell Grant program, which provides need-based grants for post-secondary education, began in 1972. If these programs were successful in their missions then we would expect family background to become a less important predictor of educational attainment over time.

We explore the changing importance of family background for a handful of early adult outcomes that are predictive of socioeconomic success in later life. Specifically, we look at changes in the extent to which parental income and education can predict the next generation's educational attainment, income, and probabilities of marriage and fertility by age 30. These outcomes are all related, since an individual's level of human capital will affect both his own earnings and his pool of potential spouses, and these are in turn tightly linked to the timing of births.

Measuring Changes in the Importance of Family Background

We estimate changes in the predictive power of family background on transitions to adulthood by estimating the slope coefficient in regressions of young adults' socioeconomic outcomes on measures of parent's socioeconomic status, specifically family income and parental education. The results from these regressions capture both the causal effect of parental income/education and the effect of all other background characteristics that are correlated with parental income or education. To estimate the extent to which the association between these outcomes and family socioeconomic status has changed over time, we focus on two cohorts, an older group (OLD), who grew up in the late 1950's, 1960's and early 1970's, and a younger group (YOUNG), who grew up during the 1970's and 1980's. We create an indicator variable, YOUNG, which is equal to 1 if the individual belongs to the younger cohort, and then estimate

multivariate regression models of children's outcomes that include interactions between YOUNG and the particular background characteristic.

Our family background measures are by no means all-encompassing, but they are easily observable and can be directly tied to theories about intergenerational mobility (i.e. Becker and Tomes, 1979). As a result, they are the measures most commonly used in cross-generational empirical studies. Our analyses focus on changes in the relationship between these measures of parents' ability to invest and several "markers" of adulthood, which include family income, years of education, whether the young adult has been married, whether she is currently married, and whether she has a child.

Data

Our analyses are based on data from the Panel Study of Income Dynamics (PSID), a longitudinal survey that began in 1968 with a nationally representative sample of about 5,000 U.S. families. Survey respondents were re-interviewed every year between 1968 and 1997, and have been surveyed every other year since then. An advantage of the PSID is that it has followed children of the originally sampled households from 1968 through the present, even after they leave home to start their own families, making it possible to link measures of the children's socioeconomic status as young adults to that of their parents. A disadvantage of this dataset, however, is that the number of children of a given age is small. We, therefore, boost our sample size by combining children born in adjacent years into groups.

Our sample includes two cohorts of children who were born between 1954-57, (the OLD cohort) and 1970-73 (the YOUNG cohort). Individuals born between 1954-57 turned twenty in the middle of the 1970's, whereas those born between 1970-73 entered their 20's at the beginning of the 1990's. These cohorts were chosen because they span a period during which a number of economic and demographic changes were taking place. Over the years that these cohorts were entering adulthood the United States experienced widening income inequality, increasing returns to education, declines in marriage rates and increasing female labor force participation. Two additional factors lead us to select these particular years for our cohorts. First, the YOUNG cohort is the youngest cohort for which we can observe young adult outcomes in the PSID data, using the most recently released survey wave from 2003. Second, we attempted to select cohorts that experienced similar business cycle conditions for the period during which we measure family background variables.

Family Background Variables

Like most recent studies, we use multi-year measures of parental income, because existing research (Solon, 1992; Zimmerman, 1992) has shown that using single year measures of parental income to proxy for lifetime income leads to attenuated estimates of the intergenerational relationship. More specifically, we use the average of the log of family income for each year the child was age 14-17, adjusted for the current unemployment rate and gross domestic product and the age of the household head. This allows us to more closely approximate a measure of "permanent" income that abstracts from both business-cycle and parents' life-cycle effects.

Parental Education

Our measure of parental education is based on the educational attainment of the household head. Since the PSID does not update information on individuals' schooling every year, we can not accurately identify parents' exact years of education when the child was 14-17 years old. Instead, we use the 1972 value of head's education for the older cohort and the 1988

value of head's education for the younger cohort.³ In order to facilitate interpretation, we use the deviation of head's education from the sample mean.

Young Adult Outcomes

We use several variables to capture the successful transition to adulthood. Young adults' family income is the average of the adult child's family income when they are between the ages of 25 and 30 (see the Appendix for specific years used), measured in logs. As will be discussed in the results section, measuring each generation's income in logs facilitates the interpretation of their estimated relationship. The second outcome is educational attainment, which we measure in two different ways. The first variable is the individual's years of education by age 30, and the second variable measures whether or not the individual has completed college by age 30. Finally, we construct indicators for whether the individual is married or a parent by age 30. More specific details on measurement of these variables are available in the Appendix.

Results

Table 2 summarizes our estimates of the relationship between family background and young adults' outcomes. Many studies have estimated the association between the income of parents and their adult children (see Solon, 1999 for a review); the first column in the upper half of the table summarizes our estimates of this relationship when the children are in early adulthood. Because income in each generation is measured in logs, these estimates can be interpreted as percentage effects. The estimated intergenerational income correlation is 0.47, which tells us that nearly half of the variance in young adult's income can be attributed to factors correlated with the level of income in their family of origin. This estimate is very similar to those that have been produced in previous studies. We also see that individuals born during the early 1970's have incomes that are about 11% higher⁴ than those born fifteen years earlier.

In order to assess whether the importance of these factors has changed over time, we need to look at the estimated coefficient on the interaction between YOUNG and family income. The estimate, -0.037, is small and not statistically different from zero. We find no evidence, therefore, that the relationship between parental income and the income of young adults has changed over time.

In the next column we look at the relationship between family income and young adults' educational attainment. Consistent with known trends, we see that on average, the younger cohort (born 1970-73) has completed about 0.7 more of a year of schooling than the older cohort (born 1954-57). We also see that family income has a strong, positive effect on young adults' educational attainment: a 10% increase in family income is associated with an additional 0.15 of a year of schooling. Evidence that this effect is changing over time is weak, however. While the point estimate is sizeable (about a fifth of the magnitude of the 1.5 estimate in the second row) it is not statistically different from zero at conventional levels. Similarly, we find no evidence that the association between family income and college completion has changed.

Corcoran and Matsudaira (2005), Hertz (2005) and Lee and Solon (2005) also find limited evidence that intergenerational mobility has declined over time. As noted in our earlier discussion, Solon's (2004) analysis suggests that all else constant, the increases in income inequality that occurred during the latter third of the 20th century should have led to an increase in the intergenerational income correlation. The fact that we find no evidence of such a change suggests that all else was not constant, and that some countervailing factor likely changed as well.

³ The fact that the PSID updates head's education only in certain years slightly complicates decisions about which year's value to utilize. For cases in which the head's education is missing in 1988 or 1972 we use alternative year measures. This is more fully documented in the Data Appendix.

⁴ Since YOUNG is a binary variable, the percentage change in income is calculated as $e^{\beta} - 1$, where β is the coefficient on YOUNG.

One possibility is that increases in government assistance aimed at disadvantaged children may have helped to combat the increasing disparity in families' abilities to invest in their children. Programs aimed at young children such as Head Start and the School Lunch and School Breakfast program may have made up for some parents reduced ability to make both cognitive and nutritional investments in their children. Garces, Currie and Thomas (2002), and Ludwig and Miller (2005) provide suggestive evidence that Head Start has positive long-run effects on individuals' educational attainment. Increases in financial assistance towards post-secondary education (such as the creation of the Pell Grant) may have increased access to higher education among older youth, though evidence on the efficacy of tuition assistance programs is mixed.⁵

We also examine changes in the relationship between parental income and two social markers of adulthood: marriage and fertility. Consistent with well documented trends, Table 2 shows that the probability of being married and having a child by age 30 has declined over time across the family income spectrum: for example, the probability that the cohort born in the early 1970's had become parents by age 30 was 13% lower than the probability that the older cohort had become parents by the same age. Similarly, the probability that this cohort had married by age 30 was 17% lower. We also see that family income during childhood is significantly related to these outcomes: children from high income families are more likely to be married by age 30, which is consistent with economists' theories about marriage markets. All else equal, high socioeconomic status men and women make more desirable marriage partners.

At the same time, young adults from high income families are more likely to delay childbearing. Furthermore, the negative relationship between parental income and starting one's own family has grown stronger over time. The tendency for individuals from financially advantaged families to delay childbearing is twice as large among individuals who came of age during the early 1990's as among those who turned 20 during the late 1970's. Since marriage and fertility are positively correlated, it may at first seem surprising that this result is not present when we look at marriage outcomes. However, our results are reminiscent of patterns found by Ellwood, Wilde and Batchelder (2004) and Ellwood and Jencks (2004) who find that highly educated women are marrying and having children later than they were a generation ago, whereas women with less education are also marrying later, but not delaying childbearing. Thus, there is a growing gap between high and low socioeconomic status adults in the tendency to form single parent families.

The second panel of Table 2 presents our estimates of the relationship between household head's education and young adults' socioeconomic outcomes. The results largely echo those in the top half of the table, with little evidence of systematic change in the importance of family background. There does appear to be a strengthening of the relationship between parent's and children's educational attainment, however, and the magnitude of this change is non-trivial. The gap in the probability of completing college between those whose parents' highest level of education was a high school diploma and those whose parents completed college has grown by nearly 16% (4 years * 0.039). For both cohorts, the average level of education among those whose parents have only a high school diploma is 13.4 years. Among members of the older cohort, who would have finished high school during the early 1970's, those whose parents completed college have an average education level of 14.5 years, whereas individuals from similar families, who would have graduated from high school during the late 1980's average 15 years of schooling.

Taken together, the results in the top and bottom panels of Table 2 are somewhat surprising, since individuals' education and income are positively correlated with each other, and we find no evidence that family income has become more important over time. If the

⁵ For example, Dynarski (2000) and Kane (2003) find large enrollment effects of targeted assistance programs, but Hansen (1983), Kane (1994) and Manski and Wise (1983) find little evidence that the Pell Grant program has affected enrollment or college completion among low income youth.

introduction and strengthening of government programs aimed at children was undoing the increasing disparity in parent's ability to invest in their children then we would not expect to see such a large increase in the predictive power of parental education. Furthermore, we see no change in the relationship between parental education and young adults' own income in spite of the large increases in wage returns to education that occurred between the time periods that the two cohorts entered the labor market.⁶

Discussion

This chapter finds limited evidence that the importance of family background (as measured by parental income and education levels) has changed over time. While our estimates suggest that there has been an increase in the association between an individual's educational attainment and that of her parents, we find no evidence that this has translated into a change in the relationship between parental education and an individual's income as a young adult. This is particularly puzzling in light of the fact that returns to education have been increasing. If parent's education is becoming a more important determinant of youth's human capital, then we would expect parents' education to be an increasingly important determinant of their income levels as well. A possible explanation is that income differences strengthen as the cohorts become older. The focus of this chapter is on outcomes of young adults, and changes in the effect of family background on long-run income may not show up until later in these cohorts' lives.

We find no evidence that the relationship between family income and young adults' human capital *or* income has increased. This mix of empirical results makes it difficult to attribute the rising education correlation to the increase in inequality, and suggests that caution be applied when interpreting the estimated changes in particular relationships. Recent research on trends in intergenerational mobility has produced wildly divergent results, which Lee and Solon (2005) argue stems from inefficient use of available data. We are also limited by small sample sizes.

Like previous studies, we find that young adults' socioeconomic outcomes differ dramatically by family income and education. Ellwood and Kane (2000) show that differences in educational attainment result from more than differences in families' abilities to afford post-secondary schooling, and that parents' education levels have an effect on a youth's probability of entering college that is independent of the effect of family income. The positive education correlation across generations may thus reflect some combination of genetic similarities across generations, differences in parenting skills between parents with high and low levels of education, and differential access to information about educational opportunities. It is possible that the importance of these family background characteristics is increasing over time even as the

⁶ We considered the possibility that our model was too simple to capture important changes taking place at the top or bottom of the income or education distributions. Specifically, we ran separate regressions of children's outcomes on indicators for whether their parent's incomes were in the bottom quartile, or the top quartile, and regressions of children's outcomes on indicators for whether their parents had a high school education or less, or a college degree (16+ years of schooling). These regressions produced no evidence of non-linear changes among children from families with very high or very low socioeconomic status. We have also conducted our analyses separately by race (white vs. nonwhite) and gender, but the estimates produced by most of these analyses are too imprecise to draw any conclusions. One exception to this that the predictive power of parental income and education on non-white youth's education levels appears to be becoming stronger over time relative to whites. The estimates are too imprecise to draw strong conclusions, but the pattern is suggestive of a widening disparity of opportunities between the most advantaged minorities and the least advantaged minorities. Note that our older cohort of blacks was coming of age during the civil rights movement. Since the early 1980's, labor market opportunities for blacks appear to have stagnated.

importance of family income per se stays the same. Determining optimal policies for overcoming these gaps will be challenging, indeed.

There is also suggestive evidence of a widening gap in out-of-wedlock fertility between young adults from different family backgrounds--individuals from both high and low income families are increasingly putting off marriage, but only those from high income families are delaying parenthood. This growing gap in the propensity towards forming single parent families is troubling because it means that an increasing fraction of American children are being born to young single mothers from economically disadvantaged families. Like other studies, this chapter makes clear that children who grow up in such families have worse economic outcomes than children whose parents are better off. These trends may, therefore, result in a substantial widening in future generations' outcomes.

Although we find suggestive evidence that some measures of family socioeconomic status have a larger impact on some youth outcomes than they used to, we find no evidence of a systematic change in the importance of parental income and education over time. It does not necessarily follow that the influence of these characteristics on long-term outcomes has remained the same. We observe our cohorts early in adulthood, at a time when earnings differences between individuals with different levels of education are relatively small. Over time, these differences are likely to grow, and a change in the relationship between children's income and their parents' income and education may become more evident. Likewise, there may be changes in the relationship between family background and the next generation's marital stability or completed family size—outcomes that cannot be measured accurately before age 30. A more complete understanding of mechanisms by which families influence their children at all stages of life, and the effect of changing economic and social conditions on these mechanisms, is certainly warranted.

Data Appendix

The data for this paper come primarily from the Panel Study of Income Dynamics (PSID). Family Background characteristics are observed during two periods: 1968-1974 (older cohort) and 1984-1990 (younger cohort). Adult transition outcomes are observed in 1983-1987 and 1999-2003. More detail is given in Appendix Table 1.

The two cohort groups examined are age 14 in 1968-1971 (older cohort) and 1984-1987 (younger cohort). Birth cohorts are formed by choosing individuals aged 14 in each year. For example, persons age 14 in 1970 form the 1956 cohort.

Persons for whom we can observe both family background characteristics and adult transition outcomes form our sample. Due to the move to biennial collection of data by the PSID beginning in 1997, adult transition outcomes cannot be observed for every cohort precisely at age 30. Most of these outcomes are observed when a person is age 29 or age 30 as shown in Appendix Table 1. Adult Income is averaged over multiple waves as shown in Appendix Table 2.

Appendix Table 1

<u>Adult</u> <u>Age</u>	<u>Birth</u> <u>Cohort</u>	<u>Year Adult</u> <u>Outcomes Observed</u>	<u>Years Family Background</u> <u>Characteristics Observed</u>
29	1954	1983	1968-1971
30	1955	1985	1969-1972
29	1956	1985	1970-1973
30	1957	1987	1971-1974
29	1970	1999	1984-1987
30	1971	2001	1985-1988
29	1972	2001	1986-1989
30	1973	2003	1987-1990

The regressions performed in this analysis are weighted using the PSID individual weight assigned in the year the person is observed as an adult.

Family Background Characteristics

FAMILY INCOME is the income of the family in 1982-84\$. It is obtained using PSID variables for Total Family Money Income and converted to 1982-84\$ using the CPI (described below). Ideally, each child's family background characteristics would be observed for each age between 14 and 17 (4 waves total). The top codes for income are set much lower (even in real terms) pre-1980 than post-1980. To address the non-observability of high earners in the earlier period, we trim observations with the top 1% and bottom 1% of **FAMILY INCOME**. (Observations here are defined on the child-wave dimension, so there are 4 observations per child). After trimming the data in this fashion, if **FAMILY INCOME** is observed for fewer than 3 of the 4 possible waves, the child has been dropped from the sample.

HEAD'S AGE is the age of the head. We recode **HEAD'S AGE** to be a missing value when an age is not reported for the PSID variable (code 999) or when Head's Age is between 0 and 16. In the first stage regression, **HEAD'S AGE** is assigned one of 40 age dummies defined using the following age groupings: a) ages 17 to 21; b) ages 22 to 25; c) ages 26 to 29; d) a separate dummy for each age from 30 to 65; e) ages 66+.

EDUCATION is the number of years of education (1 to 17, with 12 equal to HS degree or GED). When education is missing (codes 96, 97, 98, 99) or reported as zero years, **EDUCATION** is assigned a missing value.

Information on Education is not updated for heads and wives in each wave of the survey. For the family background characteristic **HEAD'S EDUCATION**, we assign the 1972 value of head's education to each child in the older cohort. When the 1972 value is missing, provided the head is the same in 1975, we assign the 1975 value. When the 1972 and 1975 values are missing,

we assign the 1968 value. We assign the 1988 value of head's education to each child in the older cohort. When this value is missing, we assign the 1989 value. Next, we follow a similar procedure for 1990, then 1987, 1986, 1985, and 1984.

It is possible that a child could have a different head in each of the waves when family background characteristics are observed. When this is the case, we average the education reported by all heads associated with a child to obtain one value of head's education per child.

Adult Transitions Outcomes

ADULT FAMILY INCOME is obtained by averaging **FAMILY INCOME** over at least 2 of 3 waves of data as shown in Appendix Table 2.

Appendix Table 2

<u>Adult Age</u>	<u>Birth Cohort</u>	<u>Year Adult Family Income Observed</u>
25, 27, 29	1954	1981, 1983, 1985
26, 28, 30	1955	1981, 1983, 1985
25, 27, 29	1956	1983, 1985, 1987
26, 28, 30	1957	1983, 1985, 1987
25, 27, 29	1970	1997, 1999, 2001
26, 28, 30	1971	1997, 1999, 2001
25, 27, 29	1972	1999, 2001, 2003
26, 28, 30	1973	1999, 2001, 2003

For each cohort, **ADULT EDUCATION** is obtained using the **EDUCATION** variable described above for the year when adult transition outcomes are observed (see Appendix Table 1).

Using year of first birth and age, we create an indicator for whether the individual had become a **PARENT BY AGE 30 (29)**. Fertility information is not collected for all individuals in the PSID. This leads to some individuals being dropped from the regressions with parenthood as the adult outcome. Of those with fertility information, some of the individuals in our sample report fertility information prior to reaching age 30 (29). Of individuals who last report fertility information prior to reaching age 30 (29), only 0.25% reported being childless.

Using marriage status, we create an indicator for whether the individual was **EVER MARRIED**. Ever married is defined as being married, widowed, divorced (including annulment), or separated. Alternatively, using the same raw data we create another marriage indicator for whether the individual is **CURRENTLY MARRIED** (not separated).

Economic Data

GROSS DOMESTIC PRODUCT is GDP in current dollars, obtained from the Bureau of Economic Analysis (<http://www.bea.doc.gov/bea/dn/gdplev.xls> accessed 5/23/05), and converted to 82-84\$ using the CPI. The **UNEMPLOYMENT RATE** was obtained from the Bureau of Labor Statistics (<ftp://ftp.bls.gov/pub/special.requests/lf/aat1.txt> accessed 5/23/05). The **CONSUMER PRICE INDEX (CPI)** in 1982-84 dollars was obtained from the Bureau of Labor Statistics (Series ID: CUUR0000SA0).

First Stage Regression

The first stage regression examines **FAMILY INCOME** during childhood with controls for the **UNEMPLOYMENT RATE**, **GROSS DOMESTIC PRODUCT**, and **HEAD'S AGE**. Three or four income residuals are obtained for each child. These residuals are averaged for each child and used as a control in the second stage adult income regressions.

Table 1
Young Adult Outcomes by Age 30 According to Household Head's Education Level and Family Income Quartile

	Cohort I (Born 1954-1957) (OLD)					Cohort II (Born 1970-1973) (YOUNG)				
	Average Family Income (2005\$)	Percent with >12 years of Education	Percent with >=16 years of Education	Percent Who Are Parents	Percent Who Are Currently Married	Average Family Income (2005\$)	Percent with >12 years of Education	Percent with >=16 years of Education	Percent Who Are Parents	Percent Who Are Currently Married
<u>Family Income Quartile</u>										
Bottom 25%	38,062	24.4	6.5	76.0	54.4	42,980	32.7	14.8	70.8	54.1
25%-50%	49,238	39.4	15.7	68.5	62.2	51,372	60.5	28.2	59.3	59.1
50%-75%	61,124	43.0	22.5	65.5	71.6	64,936	70.4	37.1	48.1	59.1
Top 25%	69,673	68.4	42.7	57.6	73.7	83,613	76.9	58.0	37.6	60.6
<u>Household Head's Education</u>										
Not a HS Grad	46,147	27.3	9.9	75.8	58.1	43,197	28.1	5.4	74.5	63.5
HS Grad (including GED)	56,226	45.5	20.3	66.7	69.7	54,208	52.0	19.7	60.2	54.4
Some College (Ed >12 but <16)	63,406	55.6	32.2	64.4	74.9	63,511	64.2	44.3	46.4	60.0
BA degree or more	71,720	84.6	56.1	41.5	73.0	81,064	90.4	66.7	37.4	57.6

Source: Authors' tabulations from the Panel Study of Income Dynamics.

Note: Average Family income has been computed using the Consumer Price Index-All Urban Consumers (Series ID: CUUR0000SA0) downloaded from <http://www.bls.gov/data/home.htm> on 4/24/06.

Table 2
Estimated Relationships between Family Background Variables and Young Adult Outcomes

	Young Adult Outcome					
	Family Income (Measured in Years of Logs)	Years of Education	Completed College	Has Children	Ever-married	Currently Married
<u>Family Background Measure: Family Income</u>						
YOUNG (Born 1970-73)	0.103** [0.039]	0.668** [0.145]	0.128** [0.032]	-0.131** [0.033]	-0.169** [0.030]	-0.072* [0.033]
Family Income	0.471** [0.045]	1.539** [0.142]	0.232** [0.028]	-0.096** [0.034]	0.068** [0.023]	0.153** [0.032]
Additional effect of Family Income for the YOUNG cohort	-0.037 [0.069]	-0.347 [0.233]	-0.008 [0.049]	-0.109* [0.052]	-0.028 [0.049]	-0.091 [0.056]
Observations	1484	1407	1407	1468	1467	1467
<u>Family Background Measure: Head's Education</u>						
YOUNG (Born 1970-73)	-0.056 [0.047]	-0.161 [0.179]	-0.04 [0.033]	-0.046 [0.039]	-0.148 [0.033]	-0.060 [0.039]
Head's Education	0.057** [0.006]	0.282** [0.023]	0.042** [0.005]	-0.031** [0.005]	0.000 [0.004]	0.019** [0.005]
Additional effect of Head's education for the YOUNG cohort	0.022 [0.014]	0.124* [0.053]	0.039** [0.011]	-0.012 [0.012]	-0.010 [0.010]	-0.022 [0.012]
Observations	1476	1399	1399	1460	1459	1459

Notes: All analyses are based on data from the Panel Study of Income Dynamics
Robust standard errors in brackets
* significant at 5%; ** significant at 1%

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