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FAMILY STRUCTURE AND THE ECONOMIC WELLBEING OF CHILDREN

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Abstract

An extensive literature that examines the relationship between family structure and children's outcomes consistently shows that living with a single parent is associated with negative outcomes. Few studies, however, directly test the relationship between family structure and outcomes for the child once he/she reaches adulthood. We directly examine, using the Panel Study of Income Dynamics, whether family structure during childhood is related to the child's economic wellbeing both during childhood as well as adulthood. Our findings suggest that the economic wellbeing of children of mothers who experience a marital dissolution and remarry are no different from the children of mothers who are continuously married. However, the children of mothers whose marriages dissolve but who do not remarry experience large declines in their income over their first ten years of life. We also show that while the children of never married mothers earn a lot less as adults than the children of married parents, these differences can largely be explained by demographic and socioeconomic factors. Finally, our findings suggest that children who have mothers who experience a marital dissolution and who do not remarry have economic losses that persist into adulthood. Robustness checks using family fixed effects models support this result.

JEL No. J12

Key Words: Family Structure

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Introduction

The importance of family structure as it relates to outcomes for U.S. children is one of the most frequently investigated topics in the field of social demography. Descriptively, it is clear that children who live with married parents fare better in nearly all domains, e.g., economically, cognitively, and emotionally, than those with parents who separate or divorce during their childhood or who live with a parent who was never married (Amato 2000; Bjorklund, Ginther, and Sundstrom 2001; Gruber 2004; McLanahan and Sandefur 1994; Nock 2000; Ribar 2004). These differences persist even after controlling for a variety of demographic and socioeconomic factors (McLanahan and Sandefur 1994; Ribar 2004). Most research to date examines the relationship between family structure and outcomes measured during the child's youth and adolescence, such as educational attainment (e.g., Astone and McLanahan 1991, 1994; Biblarz and Raftery 1999; McLanahan and Sandefur 1994), cognitive test scores (Gennetian 2005) and psychological distress and smoking (Ermisch and Francesconi 2001). Many of these outcomes are chosen because they are considered indicators of the child's success as an adult. However, these studies do not directly test the relationship between the family structure of a child's parents during the child's youth and outcomes for the child once he/she reaches adulthood, and there is relatively little research on the long-term impacts of family structure (Fronstin, Greenberg, and Robins 2001). The contribution of this paper is to examine directly whether the economic wellbeing of children during both their youth and in their adulthood is related to their family structure during their formative years. Single parenthood might alter the financial wellbeing of a child's family, which, in turn, could potentially reduce the human capital accumulation of the child and his/her financial success as an adult and a parent.

Ultimately then, family structure may play a large role in the economic success of a family across generations.

This paper adds to extant literature on family structure and children's outcomes in the United States in several important ways. First, we use a data source, the Panel Study of Income Dynamics (PSID), that allows us to link the resources available to a child while growing up to the economic success of the same child once he/she becomes an adult. As mentioned earlier, nearly all of the previous work in this area investigated family structure and outcomes for children while they were young or during adolescence as these outcomes had less strenuous data requirements. It is only now that a single data source with information on family structure over several decades exists; one that allows an inquiry into economic wellbeing in both the child's youth and adulthood. Second, much of the previous literature on family structure and children's outcomes was based on the living arrangements of the child during a particular year of the child's life. For example, in their classic study, McLanahan and Sandefur (1994) define the family structure for the child based on the mother's marital status in the child's 16th year. Wolfe et al. (1996) demonstrate that choosing a single point in time to capture family circumstances often produces misleading results. In this study, we create a family structure history for each child from birth through the year of their 10th birthday. While we follow McLanahan and Sandefur and define single parenthood as living with a divorced, separated, never married, or widowed mother, we do not base our classification on one year of the child's life. Instead, we use the entire 10-year interval to determine if the child grew up with a single mother. Thus, we are much more likely to classify children as living with an ever-divorced mother, for example, than we would using a single year of data.

There are several well-known limitations to the literature on family structure and children's outcomes. Family structure is not randomly assigned; therefore, it is extraordinarily difficult to establish causal estimates of the impact of single parenthood. In addition to capturing causal impacts, statistical associations between family structure and children's outcomes could easily result from reverse causality, also frequently called simultaneity. These associations also potentially contain bias generated by omitted variables (Bjorkland, Ginther, and Sundstrom 2007; Ribar 2004). Simultaneity bias exists because many estimates of the relationship between family structure and an outcome, particularly cross-sectional estimates, potentially include the outcome's effect on family structure. In addition, it has been well-established that single parenthood is associated with a number of characteristics that might affect family income. If one fails to account for these omitted variables, then estimates of the effect of family structure will also include the indirect effect of family structure that operates through these omitted variables. These problems rightly leave the literature on family structure and children's outcomes vulnerable to criticisms that the estimates are biased. Without a controlled experiment that randomly assigns family structure, establishing causal estimates is exceedingly difficult.

We also can be questioned on whether our estimates truly capture single parenthood's effect on family income (i.e., a causal impact) because of simultaneity and omitted variable bias. However, we take several steps to address these issues, largely by taking advantage of the information we have over nearly four decades. We use a difference model to remove the bias created by time-invariant omitted variables correlated with family structure and family income during the parents' generation. We also benefit from estimating the importance of family structure several decades before the child's adult

income is measured reducing concerns for simultaneity bias. In addition, we use family fixed effects to test the robustness of our findings for the relationship between family structure and the child's economic success as an adult.

While the econometric challenges that have only been partially addressed in the literature are important to document so as to improve our current understanding of the issue, it is equally important to note that policymakers in the United States continue to place great emphasis on marriage, particularly for the low-income population. One can see this in the Temporary Assistance for Needy Families (TANF) program where the goals include promoting healthy marriages and discouraging out-of-wedlock pregnancies. Arizona, Arkansas, and Louisiana have implemented laws that create a covenant marriage option for couples. Covenant marriages require counseling before a couple can divorce and a no-fault declaration is not an option for dissolution. Thus, while it can be difficult to generate causal estimates of the impact of family structure on children's outcomes, it remains an important social policy topic and is, therefore, worthy of more scholarly attention.

We contribute several findings to the research literature. First, we find that marital dissolution in and of itself does not reduce the economic resources available to children. Instead, we find that those who remarry after dissolution are not different in terms of their mean income over the first ten years of a child's life from those who are always married. The children of parents whose marriages dissolve and who do not remarry, however, experience large declines in their mean income over the first ten years of a child's life. Second, we show that while the children of never married mothers earn a lot less as adults than the children of married parents, these differences can largely be explained by

demographic and socioeconomic factors. Third, our findings suggest that children who have parents who experience a marital dissolution in the first ten years of their life earn less income in their adulthoods. Robustness checks using family fixed effects models are consistent with this result.

Theory

There are a number of reasons living with a single parent might harm the economic wellbeing of children. Many of the long-term economic effects of family structure operate by reducing the child's human capital accumulation, which would reduce the child's productivity as an adult (Becker 1993). Perhaps the most straightforward explanation involves the differences in resources provided by two parents compared to one. Two parents likely have more time in a day to distribute between participation in the labor force and the supervision of children. We know that married parents have higher average family incomes than single parents (Duncan and Hoffman 1985; Fronstin, Greenberg, and Robins 2001; Ribar 2004). All else equal, this would allow for greater investments in schooling, educational technology, and extracurricular lessons, among many other things and this should ultimately translate into a higher standard of living for the child (Becker 1991; Becker and Tomes 1986). Furthermore, married parents should have more time (between the two of them) to spend with their children than single parents, all else equal (Fronstin, Greenberg, and Robins 2001). Economic models of specialization suggest that two parents can capitalize on their comparative advantages and create greater productivity than could a single parent (Becker 1991). Two parents co-residing also experience economies of scale. The couple can pool their resources and can share the cost of housing, appliances, and

many of other expenditures that do not need to be duplicated for a family (McLanahan and Sandefur 1994; Ribar 2004). Furthermore, should a couple split, women and children tend to receive less than their proportionate share of the couple's pooled resources. In other words, a mother and a child usually have to live on less than two-thirds of the pooled resources available to the family (of three) (McLanahan and Sandefur 1994). This reduction in resources may translate into lower levels of parental investment in the child's human capital as the custodial parent must split her time between the labor force and home production (Fronstin, Greenberg, and Robins 2001).

Divorce, separation, or the death of a spouse can produce inordinate amounts of stress that might harm the child's economic wellbeing (Amato 2000; Fronstin, Greenberg, and Robins 2001). Because a divorce is culmination of a process of marital disintegration that can transpire over many years and produces stress throughout that period, it can affect the emotional and physical development of children. This stress in turn can disrupt their educational attainment and the developmental process (Amato 2000; McLanahan and Sandefur 1994). Parents/fathers who do not live in the same household also do not develop the same trust levels and commitment to their children (McLanahan and Sandefur 1994). Children who reside in single-parent households may also assume adult roles, such as providing childcare for younger siblings which could slow human capital accumulation (Weiss 1979). The stresses created by single motherhood, whether it occurs through marital dissolution or never having been married, can also strain the mother child relationship. This might lead to inconsistent parenting and may disrupt the natural stages children progress through in their development (McLanahan 1988; McLanahan and Bumpass 1988).

Of course, if children are in a difficult situation at home, for instance, one where there is physical or emotional abuse, removing the child from such a circumstance might prove beneficial (Amato 2000; Fronstin, Greenberg, and Robins 2001; Gruber 2004). Even in households in which abuse is not present, continual marital turmoil can be harmful to the child's emotional wellbeing and create economic effects. It is also true that the reduction in resources created when a parent leaves the child's household is moderated by the reduction in their consumption (Fronstin, Greenberg, and Robins 2001).

Literature Review

While the empirical research on family structure and its effects on children's outcomes is quite large, there are only a handful of studies that investigate the relationship between family structure and the child's outcomes once he/she reaches adulthood, including a few international studies. Fronstin, Greenberg, and Robins (2001) use the British National Child Development Survey (NCDS) to determine if the divorce or the death of a father affects educational attainment, labor force participation, and earnings by age 33. The NCDS is a panel data set composed of 98 percent (n=17,414) of all children born in the United Kingdom during the first week of March in 1958. Information on the birth cohort was collected again when the children were age 7, 11, 16, 23, and 33 (Fronstin, Greenberg, and Robins 2001). Their findings suggest that parental divorce or death is associated with a reduction in the labor force participation of males and in the wages of females. Parental divorce also appears to moderate educational attainment for the British cohort.

Also using data from the United Kingdom, Ermish and Francesconi (2001) use sibling fixed effects model to determine if single parenthood is related to educational

attainment, economic inactivity, childbearing at a young age, and smoking. Their data source is the 1991 to 1995 waves of the British Household Panel Survey. The authors claim that by using sibling comparisons, they remove all endogenous factors constant within the family. The authors also use variation with respect to the timing of the single parenthood to determine if particular periods during the child's life cycle are particularly damaging to the child's outcomes. They find that single parenthood is negatively related to educational attainment and positively related to smoking. Furthermore, single parenthood during the child's youth appears to be particularly harmful.

Gruber (2004) is one of a few studies that investigates the long-term economic impacts of family structure using data from the United States. Gruber asks if changes in states' unilateral divorce laws are related to the economic wellbeing of children as adults. Unilateral divorce laws allow one party in a marriage to dissolve the marriage without asking for the consent of the other spouse, and he finds that children exposed to unilateral divorce regimes while growing up have lower levels of education and family income as adults.

In a study similar to this one, Bjorklund, Ginther, and Sundstrom (2007) use both the National Longitudinal Survey of Youth, 1979 cohort (NLSY) and the Panel Study of Income Dynamics (PSID) to estimate the relationship between family structure and educational attainment and earnings for American families and a 20 percent random sample of individuals born in Sweden in 1964 and 1965, matching them with their siblings. Their findings suggest that the children of single parent families have lower educational attainment and earnings. However, once one removes within family variation, the results are no longer statistically significant. Unlike our study, they only use one year of earnings,

however. In addition, Bjorklund, Ginther, and Sundstrom (2007) measure the amount of time in the child's first 16 years that the child spent in a variety of family structures as their independent variables of interest. These family structure measures assume linearity in the amount of time spent in the different structures.

Methods

Data

The Panel Study of Income Dynamics (PSID) serves as the data source for this analysis. The PSID is a longitudinal data set originally representative of households in the United States in 1968, the year the survey started. From 1968 through 1993, respondents were asked demographic and employment questions annually, and since 1993, respondents have been interviewed biannually. One of the unique features of the PSID is that children of the original 4,802 sample members were retained in the sample after they left their parents' households.[1] This attribute allows one to follow a child over time thereby comparing the child's economic circumstances in childhood to his/her economic wellbeing as an adult.

We selected a sample of children born between 1967 and 1978 to the original sample members, and collected information on them between their birth and age nine and again from 2000 to 2008, when they were adults.[2] We follow Ermish and Francesconi (2001) and assume that children reside with their mothers during their childhood. Therefore, using the Marital History Supplement in the PSID, we also track the marital

[1] The PSID is composed of two independent samples. The first, called the Survey Research Center or SRC, sample is composed of a randomly drawn national sample, and the second, called the Survey of Economic Opportunities or SEO, is a group of low-income families. We use both sub-samples in our analyses, and weight responses by the individual weights provided. See Hill (1992) for more details on the PSID sample design.

[2] As detailed below, we used a number of selection criteria to create our analytic sample, which altered its composition slightly. Please see the data appendix for more details.

history of each child's mother beginning in the year of the child's birth through the year of the child's ninth birthday.[3] Mothers are classified as always married, never married, married after the birth of the child, or married at the birth but subsequently experiencing a marital dissolution. Those in the dissolution category include mothers who separated, divorced, or became a widow. Among this group, we further divided them into those who had a marital dissolution and remarried between the child's birth and age nine and those who never remarried during that interval.

Table 1 provides information on our analytic sample. Eighty percent of the children had mothers who were continuously married throughout their first ten years. The mothers of 3.4 percent were never married and just over five percent married after the birth of their child. Of the mothers in the analytic sample, 11.4 percent were married when their child was born but experienced a dissolution during the next ten years. This last set of mothers can be separated into those that remarry (3.6 percent of total sample) and those that never remarried (7.8 percent of total sample).

For each child, we estimate the child's total family income at two points in time. First, we create a measure of the child's "permanent income when a child," which we define as the average of the total family income in each year between the child's birth and ninth birthday. Total family income includes taxable income, such as earnings, interest, and dividends, and cash transfers, such as Social Security and welfare from all family members. All income figures are inflated to 2008 dollars using the CPI-U-X1 and the CPI-U-RS and are

[3] Theoretically, one would prefer to investigate family structure throughout the period when a child resides with his/her parent(s). One could then determine if there are ages when single parenthood is particularly impactful. We are constrained to some extent by the fact that we want to measure the family income both when the child was young and when the child became an adult, and the length of the panel is limited. We believe we have captured the period in a child's life that is most likely influenced by family structure. Ermish and Francesconi (2001) show that it is the family structure early in a child's life that is most highly correlated with adverse outcomes.

based on the mother's family. We measure permanent income in childhood using the average of family income over the first ten years of the child's life because the research literature has shown that annual measures of income have considerable year-to-year variation due to the transitory component of income (Corak 2001; Mayer and Lopoo 2008; Solon 1992). Moreover, we look at the first 10 years because these are the ages when the parents are making decisions regarding the child's early human capital formation. The mother must have at least three years of income to remain in the sample.

We estimate the child's permanent income as an adult as the average of the total family income for the child between 2000 and 2008, a period when the child has reached adulthood (and potentially is investing in his/her children). We require that the child have three years of income during that period before retaining the child in the analytic sample. Because the children in our sample are of different ages over this period, we flexibly control for child's age in all analyses using this measure.

In addition to reporting total family income, we also use a family income measure adjusted for the size of the family. We follow the Congressional Budget Office (CBO) methodology and divide the total family income for the child by the square root of the family size for each year (see CBO 2009). We then take the mean of family income adjusted for family size. The square root of family size is used to allow for the economies of scale present in a family. Table 1 shows that the mean annual income for these children during the first ten years was $60,315 and the median was $54,870. Adjusted for family size, the mean family income was $29,684 and the median was $27,269. Once the children became adults, the mean annual income was $81,256 and the median was $69,102. Once adjusted for family size the mean income was $50,630 and the median was $42,124.

Empirical Strategy

Family Income in Childhood

We begin our analyses by comparing the results from children who resided with mothers who were continuously married throughout the child's formative years to children whose mothers were not, a group we classify as single mothers. This simple definition is one that has been used in several analyses in the past. To gain greater insight into the heterogeneity among single mother families, we also report results splitting the single mother group into those who were never married, those who were not married at the child's birth, but subsequently married, and those who were married at the child's birth but later experienced a marital dissolution. Mothers who experience a dissolution do not necessarily remain single; therefore, we will further separate the last group into those who remarried during the child's first ten years and those that did not remarry during the ten years.

In our analysis of the relationship between family structure and permanent income during childhood, we first estimate the following descriptive model:

1) $Y_i = \alpha_0 + \alpha_1 FS + \varepsilon_i,$

where Y represents the permanent income during childhood for child *i* and FS represents the family structure for the child during his/her first ten years. If we simply define FS as an indicator variable equal to one if the mother is a single parent, then α_0 is the permanent income for children who resided with parents who were always married, and α_1 is the difference in the permanent income for those who resided with single parents at some point during their first decade. We also report estimates with the more elaborate specification for family structure described above.

In addition to these descriptive findings comparing the permanent income of the child during childhood by family structure, we also estimate models that include several demographic controls, including an indicator variable if the child is female, two indicator variables for the child's race (African American and other non-White), and a linear and quadratic term for the mother's age averaged over the years in which total family income was measured. We also include a variable for the age of the mother when she had her first child. Research consistently shows that young maternal age is positively associated with low socioeconomic status (Geronimus 1987; Geronimus and Korenman 1992). We also control for the socioeconomic status of the family using a set of indicator variables for the mother's education level. This set of mutually exclusive variables includes an indicator set to one if the mother did not complete high school, a second if her highest educational attainment was high school completion, and a third if she completed some college. The omitted category is mothers who completed college (and higher levels of education).

The results for equation 1 are potentially biased due to the same selection issues that plague virtually all of the family structure literature. One might reasonably ask if the mothers whose marriages dissolve have different levels of permanent income because of the dissolution and the loss of a coresident adult in the labor force, or if those with low-levels of income are more likely to experience dissolution. The permanent income measure and the mother's family structure are measured during the same interval making it impossible to determine the causal direction. Furthermore, it is well understood that single parents are quite different from parents who are always married in many ways other than their family structure.

To remove some of the biases present in this first set of results, we make several modifications in subsequent analyses. First, we use a more homogeneous group of families than those in the complete analytic sample. More specifically, were retain only the mothers who were married at the birth of the child. Table 2 shows descriptive statistics for several variables by family structure type. The mothers who were always married and those who experienced marital dissolution are more similar in terms of observable characteristics to one another than those who were never married or who married after the birth of the child, although they are far from homogeneous. It is likely, therefore, that they are also more similar in terms of unobservables. For instance, just over 8 percent of the children of continuously married mothers, 9.5 percent among the children of mothers who experienced dissolution and remarried, and 23.8 percent of the children of parents who experienced a dissolution and did not remarry were African American. Compare these numbers to 80 percent of those who were never married and 41 percent of those who married after the birth who are African American. One observes similar differences in terms of education. Among the always married mothers, 16.2 percent had a college education, while nearly 20 percent of the children of mothers who remarried and 18 percent of the mothers who had a marital dissolution without remarriage completed college. In contrast, only 2.6 percent of the mothers who never-married and 1.6 percent of the mothers who married after birth completed college. While there is still considerable variation among the mothers who were married at the birth of the child, by using a more homogeneous comparison, we hope to remove some of the biases created by unobserved heterogeneity.

We also use a difference model to ask if the mean total family income before the dissolution occurred is different from the mean total family income after the dissolution. Naturally, one should expect the total family income to increase as the workers in a family gain greater experience and their earnings increase. To provide a baseline comparison, i.e., to define what is a reasonable change in income over time, we utilize the results from the always married group. To create this counterfactual change among the always married group, one that clearly never experienced dissolution, we compare the mean income in the first six years of the child's life to the mean income in the last four. We chose year six as the dividing point since the median year that a dissolution occurred (among those who experienced it) was the sixth year. We also remove the influence of time invariant factors by estimating a difference model. Using the set of mothers who were married in the year their child was born, we estimate the change in the mean income as a function of the family structure of the child. Consider equation 2a:

2a) $Y_{it} = \beta_1 AM_{it} + \beta_2 Rem_{it} + \beta_3 NRem_{it} + \varepsilon_i + u_{it},$

where t =1 in the period before dissolution and t = 2, post-dissolution. Each observation has a family specific fixed effect, ε, which is correlated to family structure. We do not include a constant; therefore, all of the parameter estimates represent mean values for the individual family structure categories. If one subtracts the income level in the post period from pre period, one generates the following difference model:

2b) $\Delta Y_i = \beta_1 \Delta AM_i + \beta_2 \Delta Rem_i + \beta_3 \Delta NRem_i + \Delta u_i,$

where ΔY represents the difference in mean income before and after the dissolution, ΔAM represents the artificial change we created before and after the sixth year of marriage, and ΔRem *and* $\Delta NRem$ are changes in the marital status of the mothers. Because all of the

mothers started the period married, these changes all represent changes to a nonmarried state. The benefit of this difference model is that factors that are constant within the 10-year interval, such as the mother's socioeconomic status, preferences for a large family, marriage, or work, (i.e., ε) are differenced out. In other words, mother specific factors that are constant within the interval, whether observed or not, are not the explanation for any differences observed.

Family Income in Adulthood

In our second set of analytic models, we estimate the relationship between family structure in the child's first decade and the child's educational attainment and permanent income as an adult (described in equation 3). While we do not interpret our results as causal, they should not suffer from simultaneity bias given the lag between the family structure measure and the child's economic status.

3) $Y_i = \gamma_0 + \gamma_1 FS_i + v_i$

We estimate the relationship between the child's family structure and the child's educational attainment measured as the maximum number of years completed between 2000 and 2008 and the child's permanent family income as an adult. In addition to the specification described in equation 3, we add controls for the sex of the child, the child's race, a linear and quadratic term for the mother's age when her income was measured, a linear and quadratic term for the child's age when the child's education and income was measured, the mother's age at first birth, and the same set of maternal education indicator variables used in the first model.

We also report results comparing the education and permanent family income measures using variation in family structure for siblings. The advantage of these within mother or family fixed effects models is that any factor that is constant across siblings, such as the home environment or school quality, does not bias estimates of the family structure effect. The utility of these family fixed effects models depends on several factors, however. First, in order to identify family structure effects, one needs both a large sample of siblings and variation in both the family structure and the outcome. Second, one has to assume that individual specific characteristics of the child are not causally related to the changes in family structure observed. For instance, if families with children who suffer from developmental disabilities are more likely to divorce, the different level of permanent income observed for a child with the developmental disability (once an adult) and his/her sibling without the disability should be attributed to the disability not family structure. Third and finally, under most circumstances a decision to divorce or separate is the culmination of a long process in which the couple (or a spouse within the couple) decides to dissolve the marriage. While we know the date the marriage legally ended, the instability of the couple, the stress from the breaking relationship, as well as a number of other factors could affect children for several years before the actual split. If true, while the siblings may literally live in different family structures during their first ten years, they may have experienced very similar circumstances. For example, a child whose mother who divorces when he is 11 would be, in our measure, classified as having an always married mother. His sibling who is three years younger would be classified as having a mother who had a marital dissolution. However, if the process of and stress associated with dissolution began many years prior to the dissolution, the actual differences in the experiences of the two

siblings may not be large. Given these caveats, we treat the family fixed effects models as robustness checks on the results we find with the OLS models.

For all of the aforementioned analyses, we report results using both the permanent family income and results using permanent family income adjusted for the size of the family. All of the models are also estimated using the individual weights provided by the PSID. In models with controls, we demean the control variables to give the constant an interpretation that is relevant for our purposes. We report Huber White standard errors and because multiple children from the same family are present in the analytic sample, we adjust the standard errors to allow for dependence in the error term within the same families.

Results

Family Structure and Economic Resources during Childhood

Table 3 shows descriptive results illustrating the relationship between the child's family structure during his/her youth and the parent's total family income. Model 1 suggests that children whose mothers were not continuously married have incomes that are $22,000 less than the children of mothers who were continuously married. Given that always married families earned about $64,700 annually, single parents have total family incomes that are about 2/3 the size of always married couples' incomes. Model 2 breaks the family structure up into never married, married after birth, those that experienced dissolution and remarried and those that experienced a dissolution and did not remarry (the omitted group is always married). This disaggregation shows that there are differences in the economic wellbeing of families with different family structures. Compared to those that were always

married, those who were never married earned about $43,000 less. Those who were not married at the birth but later married, earned around $27,400 less. When we break marital dissolution into those mothers who remarried and those who did not, we find a result that will surface repeatedly throughout our analyses: among those who experience dissolution, there is a different level of family resources that depends on whether the mother remarried. Mothers who remarry earn about $4,000 less than those who were always married, but this difference is not statistically significant. On the other hand, those who do not remarry have permanent income levels that are more than $18,000 less than the always married, and this difference is statistically significant. In Model 3, we control for demographic factors, and we still observe statistically significant differences for never married mothers, mothers who marry after the birth and married mothers who break up and never remarry. The children of mothers who remarry have nearly identical permanent income levels suggesting that remarriage protects children from experiencing potential parental investment levels that are noticeably different from always married families. In Model 4, with the mother's education level controlled, the mothers who marry after birth and the married mothers who break up and never remarry are different from the mothers who were always married. The other two single mother categories are not different statistically.

We find nearly identical results in Table 4 when we make an adjustment for the size of the family. We will walk through the results in Table 4, but since the results are substantively the same when one makes family size adjustments as when we use total family income, we focus on total family income results throughout the remainder of this paper. In Model 1, we find that single parents earn approximately $9,400 less than married

parents once the income is adjusted for family size, or about 30 percent less. Model 2 breaks the single parent category up into more specific family structures. Never married families earn about $20,700 less than always married parents, while those who married after the birth earn about $12,500 less. Those who remarry earn about $1,900 more than the always married families, although this difference is not statistically significant. Those who do not remarry earn about $7,800 less than the always married group. One can explain a great deal of the differences noted among never married mothers with demographic controls and the mother's education level. The difference for the children of never married mothers declines from $20,700 to around $7,000 with these factors controlled. In addition, the children of mothers who married after birth do not have a statistically significant difference in their permanent income nor do the children who have parents who dissolve and remarry. The children of mothers who experience dissolution and do not remarry however, have lower permanent income adjusted for family size during their childhood – about $6,200 less than those who are always married. In sum, the children of mothers who never marry and who are married at their birth but subsequently break up and do not remarry are the children who experience economic circumstances that are noticeably different from the children of mothers who are continuously married.

In Table 5, we remove mothers who were not married in the year their child was born. In this set of results, we compare the incomes of the child before the dissolution to the income after the dissolution, again artificially breaking-up the continuously married couples to provide a baseline for a reasonable change over time. This model has the additional benefit of removing time-invariant factors for the children that may be biasing the family structure estimates. The first column report results for total family income.

Married couples earn about $12,300 more annually in the last four years of the child's formative years than during the first six. Those who remarried earned about $21,100 more after the dissolution. While both estimates are statistically significantly different from zero, the difference between the coefficient estimates is not statistically significant. Those who never remarried earned about $13,500 less after the dissolution than before, and this result is statistically significantly different from the results for the always married families. In other words, not only do the children of mothers who experience a dissolution and do not remarry do worse than the children of continuously married parents whose dissolution was artificially generated, they are worse off than they were before the dissolution. Clearly, remarriage appears to be protective, while dissolution without remarriage substantially lowers the economic well-being of children.

We interpret this set of results to suggest that marital dissolution in and of itself does not reduce the economic resources available to children: those who remarry after dissolution are not different in terms of their permanent income than those who are always married. In fact, they may be better off than those who are always married. However, the children of parents whose marriages dissolve and who do not remarry, experience large declines in their permanent income. This may be attributed to dissolution coupled with some personal or environmental characteristics or simply due to omitted factors from the model, i.e., selection. What we can say is that dissolution itself is not the explanation.

Family Structure and the Economic Wellbeing of the Child as an Adult

Next, we ask if the family structure differences persist into adulthood. In Table 6, we estimate the relationship between family structure and the child's educational attainment,

measured once the child is an adult. The children of single parents earn 0.8 years less education than the children of always married parents, who earned 14 years on average. Model 2 shows that, as was the case for parental income, aggregating all of the single parents hides the differences that exist across difference family structures. For instance, the children of mothers who were never married earned 1.6 years less than the children of mothers who were always married, while the children of the mothers that married after birth the birth of the child earned about 1.1 years less. The children of parents who experienced dissolution and remarried have nearly identical education levels as the children of continuously married mothers. The children of dissolution without remarriage earned about 0.7 years less, and that difference is statistically significant. In Model 3, we include controls for demographic factors, and the differences for those who never married and those who married after birth are reduced appreciably. The difference for never married mothers declines to about two-thirds of the previous estimated mean difference, and the difference for children of mothers who married after the birth declines to about one-third of the previous mean difference. In Model 4, we control for the mother's education level, and all of the differences decline again, with the exception for the difference for the dissolution with remarriage group, and this is the only family structure type that has a statistically significantly difference compared to the children of continuously married mothers. In Model 5, we include a measure of the child's permanent family income to test if the remaining educational difference for this family structure group can be explained by the permanent family income differences. While the coefficient estimate falls, the difference persists and remains statistically significant, suggesting that

the educational differences observed are due to factors other than those generated by difference in potential parental investment.

In Table 7, we report results for the permanent income of the child as an adult, and in Table 8, we report estimates for adjusted family income. We focus on the results in Table 7 since the two sets are similar. Model 1 shows that the children of single parents earn $28,200 less than the children of always married parents, who earn $86,900 on average. Again, these difference are not equal across family structure types. Models 2 reveals that the children of mothers who were never married earn $46,000 less than the children of continuously married mothers, while the children of those who marry after birth earn $34,500 less. As was the case for income during childhood, there are interesting differences among the children of dissolution that differ by the remarriage status of the child's mother. The children of mothers who remarried earn roughly the same amount as the children of always married parents, while the children of mothers who do not remarry earn $30,500 less, a statistically significant difference. Demographic factors explain a large portion of the differences observed. The difference for never married mothers falls (in magnitude) from -$46,000 to around -$16,900. The difference for those married after the birth of the child falls from -$34,000 to -$14,600 and is no longer statistically significant. The difference for the dissolved but never remarried group declines (in magnitude) from -$30,500 to -$24,500. In Model 4, we add controls for the mother's education and the only statistically significant difference is for those who experience dissolution and do not remarry. The estimated difference remains around -$24,200. The never married difference drops in magnitude to -$10,900, and the difference for the married after birth group falls to -$12,400. When we include the education variable as a mechanism to explain potential

impact of family structure in Model 5, the difference for the never married group declines (in magnitude) again to -$4,300, the difference for the married after birth declines (in magnitude) to -$10,200, the difference for the remarried group increases to $5,041, and the difference for the never remarried group declines (in magnitude) about a third to -$16,900. This final difference is the only difference that is statistically significant. In Model 6, we add a measure of the permanent income of the child, which would capture all of the socioeconomic factors related to family structure outside of human capital accumulation. Once controlled, the coefficient estimate for dissolution and never remarrying falls (in magnitude) to -$9,500 but remains statistically significant.

We next turn to results from the family fixed effects models (FE) to test the robustness of our OLS findings. It is important to restate that the identification of the family structure coefficients in our family fixed effect model comes from variation among siblings that experienced different family structures during their first ten years. In our analytic sample, we had 369 families with siblings which translated into 822 individual observations. However, most of the siblings did not experience a different family structure during their first ten years. Table 9 provides more detail on family structure variation within siblings. The first row in Table 9 shows that four two-sibling families (eight siblings) and two three-sibling families (six siblings) had variation in the "never-married" family structure. Based on Table 9, there is very little family structure variation to identify the difference in economic wellbeing for the children of never-married mothers and those who were always married (n=14). The same is true of the mothers who remarry after divorce. While none of the family structure types had a considerable amount of within sibling variation, the married after birth and the dissolution and never remarried groups appear to

have relatively more. We focus our attention on the results for the dissolved and never remarried group since these are the results that were statistically significant in the OLS models, but again, we simply report these results as robustness checks to compare to the OLS results.

Table 10 reports results for the child's educational attainment, and Tables 13 and 14 show results from the family income and family income adjusted for family size, respectively. In Table 10, we report the OLS findings from Models 4 and 5 in Table 6, in addition to the results for the family fixed effects (FE) models. As expected, the coefficient estimates for the family fixed effects models are imprecisely measured. However, the point-estimates are quite consistent for the dissolved and never remarried group in the OLS and fixed effects models. For instance, in Model 4, compared to those who are constantly married, the children of mothers who experience a marital dissolution without remarriage earn about 0.72 of a year less education. The point-estimate for the fixed effects models is 0.75 years less. Similarly, in Model 5, once the child's permanent income during childhood is controlled, the point estimate in the OLS model is -0.54 compared to -0.59 in the fixed effects model.

Model 5 in Table 11 shows a difference for marital dissolution and never remarrying of around -$16,500 for both the OLS model and the FE model. The results for Model 6 are less consistent, showing greater disparity in the FE model compared to the OLS model, but both the FE results suggest that the difference may be even larger than predicted by the OLS results. The results for family income adjusted for size are qualitatively similar, and are reported in Table 12.

Discussion and Conclusion

Until recently, data have not been available to investigate the long-term consequences of single parenthood for children once they reach adulthood. We use the PSID to determine whether the marital status of mothers during the first ten years of a child's life affect that child's economic well-being both in childhood and adulthood. Our results suggest the economic wellbeing of children who experience a maternal dissolution differs depending on the whether the mother remarries. More specifically, the children whose mothers remarry appear to have, as a child, family incomes that are quite similar to the children who live with continuously married mothers. Children of mothers who never remarry appear to suffer economically. In fact, our results suggest that the children of continuously married mothers and mothers who remarry have an improved economic situation throughout their youth. In contrast, the children of mothers who do not remarry not only have worse economic conditions at birth compared to the children of continuously married parents, their economic wellbeing actually declines over time. In other words, they are become worse off as they age. This finding is interesting in the context of the broader literature. Duncan and Hoffman (1985) showed that marital dissolution is more harmful to women than men and that remarriage can protect women. We find that this is particularly true for women with children and when one looks at their smoothed income rather than just looking at individual years. Of course, one cannot be sure this difference among those who experience a dissolution is a remarriage effect. Mothers who experience a dissolution and remarry may be different from mothers who do not remarry in ways that we have not controlled. What this does suggest, however, is that dissolution, in and of itself, is not harmful to children.

If this remarriage difference is causal, the finding is of value to the broader literature on remarriage. Children who grow up with mothers who divorce and remarry do not fare as well on a variety of outcomes, including educational attainment and engaging in risky behaviors, on average as children who grow up with continuously married parents (Astone and McLanahan 1991; Coleman, Ganong, and Fine 2000; Hoffman and Johnson 1998; Ribar 2004; Teachman Paasch, and Carver 1996). Our results suggest that these losses are probably not due to a reduction in parental resources: remarried families seem to have at least as much income as continuously married families, perhaps even more. One potential explanation for the poorer outcomes for the children of remarriage is the instability of a marital dissolution, where children may have to move into a different neighborhood with different peer networks and schools. Furthermore, the children may suffer from the stress of the break-up. Ribar (2004) also suggests that step-parents may not place the same value on their step-children, and invest in them less.

Our findings also suggest that some of the difference persist into adulthood, but only for those who experience dissolution without remarriage; the children of remarriage have education and income levels that are comparable to the children of mothers who were always married. The children of mothers who experience a dissolution but who do not remarry earn about 0.7 less years of education. Once we control for the permanent income of the family during the child's first ten years, the difference falls to 0.5 years, but remains statistically significant. Thus, the family structure differences may be partially explained by their economic well-being as a child, but other explanations must exist. Given that the children of remarriage had much smaller reductions in education (0.09 years and insignificant), then the common experiences with the children of remarriage, such as a

break-up with a biological parent, also are probably not the explanation for the observed differences. Dissolution, in and of itself, then is probably not the source of the difference either, and selection remains a likely cause. We use family fixed effects models to check the robustness of our findings, and they are consistent with the 0.7 to 0.5 year reduction in education. If selection is the issue, then it is likely factors that are not constant within the family.

With respect to income as an adult, the findings for the children of mothers who experience dissolution also diverge conditional on a remarriage. The children of mothers who remarry, appear to earn at least as much as the children of continuously married mothers. Without remarriage, the children who experience dissolution earn about $17,000 less annually in adulthood. Family fixed effects models show nearly identical results. Once we control for the permanent income of the child during their first ten years, dissolution without remarriage becomes less costly. The difference falls to around $9,500 suggesting that parental income as a child may have persistent effects. The family fixed effects model show much larger differences, but they are not precisely measured.

Our results show that family structure does appear to matter to the economic well-being of children – both when growing up and as adults. Moreover, they suggest that dissolution in particular has the potential to be harmful. However, there is considerable heterogeneity in the effects of dissolution among these children. For example, children whose mothers remarry appear to experience relatively minimal impacts of their mother's marital dissolution. Those whose mothers do not remarry appear to have large reductions in their economic wellbeing in childhood and a an adult.

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Table 1: Descriptive Statistics for Mothers and Children

	Parent's Generation	Child's Generation
Family Income: Mean Family Income: [Median] Family Income: (Standard Deviation)	60315 [54870] (33844)	81256 [69102] (66789)
Family Income Adjusted for Family Size	29684 [27269] (16396)	50630 [42124] (42040)
Age	29.86 (5.38)	31.75 (3.37)
Always married	0.801	
Never married	0.034	
Married after birth	0.051	
Marital Dissolution	0.114	
Never remarried	0.077	
Remarried	0.037	
Female		0.496
African American		0.136
White		0.837
Other		0.028
Sample Size	1548	

Note: Authors' calculations from the PSID. Incomes are inflated to 2008 dollars using the CPI-U-RS and CPI-U-X1.

Table 2: Total Family Income and Total Family Income Adjusted for Family Size for Parent and Children

	Full Sample	Always Married	Never Married	Married After Birth	Marital Dissolution: Remarried	Marital Dissolution: Never Remarried
Family income (mother)	60315 [54870] (33844)	64748 [58684] (33424)	21577 [16961] (14809)	37322 [31028] (21002)	60711 [50204] (37679)	46421 [40350] (28244)
Adjusted family income (mother)	29684 [27269] (16396)	31558 [28893] (16172)	10870 [8932] (7053)	19050 [17036] (11304)	33439 [27311] (20475)	23769 [21495] (12632)
Family income (child)	81256 [69102] (66789)	86886 [73594] (69829)	41195 [32633] (33232)	52381 [45371] (49195)	88092 [70826] (64463)	56352 [51472] (32099)
Adjusted family income (child)	50630 [42124] (42040)	53880 [44638] (43920)	25593 [18442] (22943)	31413 [29932] (28990)	56953 [42161] (40814)	37647 [33953] (22980)
Child female	0.496	0.479	0.607	0.486	0.650	0.546
Child African American	0.136	0.081	0.796	0.428	0.095	0.238
Child White	0.837	0.893	0.172	0.482	0.905	0.738
Child other race	0.028	0.025	0.032	0.090	0	0.025
Mother's age	29.86 (5.38)	30.35 (5.22)	26.45 (6.01)	25.02 (4.18)	28.38 (4.36)	30.21 (5.67)
Child's age	31.75 (3.37)	31.88 (3.37)	30.69 (3.31)	31.34 (3.62)	31.38 (3.04)	31.29 (3.35)
Mother < HS	0.154	0.126	0.575	0.328	0.042	0.208
Mother HS	0.443	0.456	0.274	0.524	0.411	0.341
Mother Some College	0.250	0.256	0.124	0.132	0.350	0.271
Mother College Grad +	0.153	0.162	0.026	0.017	0.197	0.180
Child < HS	0.100	0.092	0.285	0.138	0.033	0.102
Child HS	0.255	0.224	0.410	0.384	0.358	0.379
Child Some College	0.312	0.319	0.178	0.346	0.254	0.304
Child College Grad +	0.333	0.366	0.127	0.131	0.355	0.215
Sample size	1548	1129	113	126	54	126

Note: Authors' calculations from the PSID. Incomes are inflated to 2008 dollars using the CPI-U-RS and CPI-U-X1.

Table 3: OLS Models of Family Structure and Family Income during Child's Youth

	Model 1	Model 2	Model 3	Model 4
Single parent	-22226** (2703)			
Never married		-43170** (2761)	-21212** (3860)	-16125** (3430)
Married after birth		-27426** (3347)	-7552* (3248)	-5665 (3136)
Marital dissolution & remarried		-4037 (6394)	833 (6142)	-3111 (5503)
Marital dissolution & never remarried		-18327** (4105)	-15490** (3233)	-15424** (3117)
Constant	64748** (1424)	64748** (1426)	62585** (1235)	62457** (1177)
Demo.	No	No	Yes	Yes
Mother's Education	No	No	No	Yes
Sample size	1548			

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category.

Table 4: OLS Models of Family Structure and Family Income Adjusted for Family Size during Child's Youth

	Model 1	Model 2	Model 3	Model 4
Single parent	-9394** (1366)			
Never married		-20688** (1362)	-9565** (1880)	-7005** (1718)
Married after birth		-12508** (1847)	-3338* (1642)	-2399 (1573)
Marital dissolution & remarried		1881 (3567)	4236 (3571)	2250 (3155)
Marital dissolution & never remarried		-7789** (1786)	-6204** (1341)	-6171** (1258)
Constant	31558** (684)	31558** (684)	30501** (593)	30438** (563)
Demo.	No	No	Yes	Yes
Mother's Education	No	No	No	Yes
Sample size	1548			

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category.

Table 5: Difference Model of Family Income Before and After Marital Dissolution, Sample of Mothers Married when Child Born

	Sample Includes Continuously Married Mothers	
	Family Income	**Adjusted Family Income**
Always married	12324** (1009)	4184** (465)
Dissolution and remarried	21080** (6996)	11890**# (3814)
Dissolution and never remarried	-13537**## (3577)	-4811**## (1432)
Sample size	1276	1276

Notes: * p<0.05; ** p < 0.01 for H_0: Parameter = 0;
# p<0.05; ## p < 0.01 for H_0: Parameter different from Always Married Parameter;
Robust standard errors clustered at family level.

Table 6: OLS Models of Family Structure and Child's Educational Attainment

	Model 1	Model 2	Model 3	Model 4	Model 5
Single parent	-0.828** (0.178)				
Never married		-1.601** (0.343)	-1.071** (0.393)	-0.657 (0.415)	-0.471 (0.409)
Married after birth		-1.120** (0.298)	-0.414 (0.300)	-0.257 (0.282)	-0.191 (0.279)
Marital dissolution & remarried		0.078 (0.354)	0.181 (0.318)	-0.126 (0.303)	-0.089 (0.293)
Marital dissolution & never remarried		-0.731** (0.269)	-0.726** (0.247)	-0.719** (0.210)	-0.543** (0.213)
Constant	14.01** (0.086)	14.01** (0.086)	13.95** (0.078)	13.94** (0.075)	13.91** (0.074)
Demo.	No	No	Yes	Yes	Yes
Mother's Education	No	No	No	Yes	Yes
Mother's Permanent Income	No	No	No	No	Yes
Sample size	1548				

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when education was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category.

Table 7: OLS Models of Family Structure and Child's Family Income during Adulthood

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Single parent	-28228** (4374)					
Never married		-45961** (6756)	-16905* (8154)	-10923 (7790)	-4347 (7728)	3714 (8191)
Married after birth		-34506** (7399)	-14587 (8200)	-12361 (8068)	-10204 (7679)	-7300 (7313)
Marital dissolution & remarried		1205 (11249)	6056 (10939)	2075 (10886)	5041 (11316)	6544 (11333)
Marital dissolution & never remarried		-30534** (4686)	-24501** (4515)	-24175** (4407)	-16925** (4117)	-9461* (4772)
Constant	86886** (2746)	86886** (2749)	84244** (2446)	84050** (2426)	83047** (2207)	81993** (2012)
Demo.	No	No	Yes	Yes	Yes	Yes
Mother's Education	No	No	No	Yes	Yes	Yes
Child's Education	No	No	No	No	Yes	Yes
Mother's Permanent Income	No	No	No	No	No	Yes
Sample size	1548					

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when the child's total family income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category. The child's education includes the same education categories.

Table 8: OLS Models of Family Structure and Child's Family Income Adjusted for Family Size during Adulthood

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Single parent	-16294** (2877)					
Never married		-28287** (4737)	-10395 (5503)	-6628 (5247)	-2402 (5095)	2278 (5269)
Married after birth		-22467** (4437)	-9883* (4973)	-8343 (4881)	-6836 (4583)	-5150 (4341)
Marital dissolution & remarried		3073 (7788)	7412 (7957)	4533 (7559)	6493 (7781)	7366 (7518)
Marital dissolution & never remarried		-16233** (3271)	-12672** (3156)	-12658** (3025)	-7711** (2651)	-3377 (2875)
Constant	53880** (1703)	53880** (1705)	52193** (1501)	52092** (1495)	51417** (1346)	50806** (1257)
Demo.	No	No	Yes	Yes	Yes	Yes
Mother's Education	No	No	No	Yes	Yes	Yes
Child's Education	No	No	No	No	Yes	Yes
Mother's Permanent Income	No	No	No	No	No	Yes
Sample Size	1548					

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when the child's total family income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category. The child's education includes the same education categories.

Table 9: Sample Size for Families with Siblings and for Families with Siblings with Variation by Family Structure

Observations: Families with Family Structure Variation	Number of Siblings in the Family				
	Two	Three	Four	Five	Total
Never married	8	6	0	0	14
Married after birth	36	18	4	0	58
Divorced and remarried	12	9	0	0	21
Divorced and never remarried	38	12	4	0	54
Total	94	45	8	0	147
Total Number of Families					
Total in Sample	586	207	24	5	822

Table 10: Comparison of OLS and Mother Fixed Effects Models, Child's Educational Attainment

	Model 4		Model 5	
	OLS	FE	OLS	FE
Never married	-0.657 (0.415)	-0.460 (0.850)	-0.471 (0.409)	-0.269 (0.820)
Married after birth	-0.257 (0.282)	0.255 (0.590)	-0.191 (0.279)	0.219 (0.595)
Marital dissolution & remarried	-0.126 (0.303)	0.120 (0.981)	-0.089 (0.293)	0.325 (1.007)
Marital dissolution & never remarried	-0.719** (0.210)	-0.754 (0.879)	-0.543** (0.213)	-0.592 (0.855)
Demographics	Yes	Yes	Yes	Yes
Mother's permanent income	No	No	Yes	Yes
Sample Size	1548	822	1548	822

Notes: * $p<0.05$; ** $p < 0.01$; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when the child's education was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category.

Table 11: Comparison of OLS Models and Mother Fixed Effects Models of Child's Family Income during Adulthood

	Model 5		Model 6	
	OLS	FE	OLS	FE
Never married	-4347 (7728)	-36880 (20699)	3714 (8191)	-40643* (19450)
Married after birth	-10204 (7679)	-12505 (9562)	-7300 (7313)	-11764 (9683)
Marital dissolution & remarried	5041 (11316)	15724 (26060)	6544 (11333)	11286 (25319)
Marital dissolution & never remarried	-16925** (4117)	-16386 (20091)	-9461* (4772)	-19548 (19208)
Demographics	Yes	Yes	Yes	Yes
Child's Education	Yes	Yes	Yes	Yes
Mother's permanent income	No	No	Yes	Yes
Sample Size	1550	822	1550	822

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when the child's total family income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category. The child's education includes the same categories.

Table 12: Comparison of OLS Models and Mother Fixed Effects Models of Child's Family Income Adjusted for Family Size

	Model 6		Model 7	
	OLS	FE	OLS	FE
Never married	-2402 (5095)	-30190** (11513)	2278 (5269)	-30673** (11040)
Married after birth	-6836 (4583)	-5961 (5515)	-5150 (4341)	-5894 (5535)
Marital dissolution & remarried	6493 (7781)	11081 (12670)	7366 (7518)	10334 (12401)
Marital dissolution & never remarried	-7711** (2651)	-9679 (10530)	-3377 (2875)	-10237 (10096)
Demographics	Yes	Yes	Yes	Yes
Child's Education	Yes	Yes	Yes	Yes
Mother's permanent income	No	No	Yes	Yes
Sample Size	1548	822	1548	822

Notes: * p<0.05; ** p < 0.01; Robust standard errors clustered at family level. Models include indicator variables for the child's sex and the child's race. The models also include a linear and quadratic terms for the mother's mean age when income was measured, a linear and quadratic term for the child's age when the child's total family income was measured, and a measure of the mother's age when she had her first child. Mother's education includes a set of indicators for less than high school, high school, some college. College or more is omitted category. The child's education includes the same categories.

Data Appendix

The 1,548 cases that were included in the PSID analytic sample met some fairly rigid data requirements. The child's mother's marital history needed to be complete for the child's first ten years, the child needed at least three years of total family income reported between 2000 and 2008, and the child's mother needed at least three years of total family income reported during the child's first ten years. The variable for the child's family size during his/her youth and during his/her adulthood also had to be non-missing in the years income was reported. Furthermore, the child's education variable between 2000 and 2008 had to be non-missing for at least one year. Given these selection criteria, the 1,548 children used in the analytic sample is much smaller than the full sample of children born between 1967 and 1978. Below, we compare the demographic characteristics (that were never missing) for the 1,548 child used in the analysis to the 2,217 children born between 1967 and 1978 who had individual sample weights, i.e., the full sample of children in the PSID who could have been used with complete data.

	Analytic Sample	Full Sample	Cases not used
Child is female	0.496 (0.500)	0.476 (0.500)	0.417** (0.493)
Child is African American	0.136 (0.342)	0.149 (0.356)	0.192** (0.394)
Child is white	0.837 (0.370)	0.824 (0.380)	0.785** (0.411)
Child is other race	0.028 (0.164)	0.027 (0.161)	0.023 (0.151)
Year born	1972.33 (3.46)	1972.55 (3.51)	1973.20** (3.58)
	1548	2217	669

Notes: ** $p < 0.01$; t-test for difference between proportion in analytic sample and proportion among cases not used in the analysis.

Results suggest that the cases that were lost for this analysis were not random. The individuals lost to this analysis were less likely to be female, were more likely to be African American, and were slightly younger than those in the analytic sample. Readers should keep this in mind when interpreting results.