

# From Teacher to Banker: Parental Support of Children in Adulthood

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## Abstract

Parents continue to play an important role in the financial lives of their children into adulthood, especially by financing major investments such as post-secondary education. Using rich panel data linking mothers of the National Longitudinal Survey of Youth 1979 to their children, I investigate parental transfers over the life course of children, as well as allocation across siblings. Within a child, parental support increases when the child enrolls in school and decreases as the child's earnings increase. Within a family, parents are less likely to transfer to children with higher earnings. Comparing across siblings in a multinomial logit framework, I find evidence that transfers are structured differently for children of different birth orders - parents are more likely to provide support for the education of firstborns, and provide more support to the secondborn when they have low earnings.

I find evidence of financial support for insurance motives does not crowd out support for other siblings, and that children who have grandchildren receive less support overall, though they receive more support around the birth of their children.

**Keywords:** inter vivos transfers, altruism

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# 1 Introduction

Many studies document the importance of parental investments in children - in terms of time and money - in early childhood (for example, Cunha et. al. 2006, Cunha and Heckman 2007). Relatively less is known about parental involvement after the child reaches age 18 and enters adulthood. The demands of raising children evolves over the course of the child's life cycle. At the same time, the abilities of the parent are evolving as they progress through their own life cycle. When children make the transition to adulthood they may once again need support from their parents to further invest in education, such as going to college. They may also turn to parents for credit, to buy a house, or start a business. It may be the case that parental support provides insurance in the case of job loss or earnings shocks. In other words, parental roles may shift over the life course with time inputs becoming less important and financial support playing a larger role. In this paper, I study parental transfers to children in adulthood.

In closely related work, Haider and McGarry (2018) utilize the Health and Retirement Study and find that parents make large transfers to finance college education of children, and also to shield children from income loss and financial shocks. With regards to transfers across siblings, they find that parents are less likely to make transfers to children with higher earnings (suggesting a preference for equality). At the same time, large transfers to finance the education of one child are not fully compensated by cash transfers to other siblings. In earlier work, McGarry (1999) finds that parents, during their lifetime, make cash transfers to children with lower earnings, while equalizing bequests across all children.

In this study, I use mother-child matched data from the National Longitudinal Survey of Youth (NLSY79) and NLSY79 Child supplement to study parental transfers to adult children over the life course as well as allocation across their children. Parental transfers to children in adulthood have been hampered by lack of appropriate data. The NLSY79 mother-child data are advantageous for this purpose since the data links mothers to all children and each child is surveyed in detail. Importantly, each child is asked in each survey round whether

they received financial support from the mother. Consistent with prior research, I find that mothers are more likely to provide support to their adult children while in school, before marriage, and during periods when their incomes are lower. Comparing across children within a family, I find that mothers are less likely to provide support to children with higher earnings. I also focus on families with two children to directly examine what happens to transfers to one child when the earnings of the other child increases. I use a multinomial framework, distinguishing four mutually exclusive outcomes - no transfers to either child, transfers to first-born only, transfers to second-born only, and transfers to both children. I find (four times) greater effect magnitudes for exclusive support in school enrollment for the firstborn, and (two times) greater effect magnitudes associated with low income for the secondborn. These findings suggest that firstborns receive more investment in human capital in adulthood, while secondborns receive more insurance-like support from their parents.

This paper contributes to the literature in several ways. First, I contribute to the literature by bringing the rich panel structure of the NLSY 1979 to examine parental transfers to adult children. Relative to closely related papers examining transfers across children such as Haider and McGarry (2018), I go beyond models with family fixed effects to directly examine transfers to each child following earnings shocks to one of the siblings. Across multiple approaches, my estimates suggest that contemporaneous substitution in parental support across adult children must be very weak.

## **2 Background**

In this section, I review some classical models of parental altruism, and draw out their implications for testing in my setting. Then, I briefly review findings from prior empirical work in this area to shed light on plausible parameter values.

## 2.1 Theoretical Background

Economists typically explain parental generosity with children through models of altruism, where the parent receives utility from benefiting the child. This altruism may be either pure altruism, where the parent's utility is a function of the child's utility, or impure altruism, where the parent's utility is a function of something closely related to the child's utility, such as their income or consumption (Ray 1987, Galperti and Strulovici 2017).

Models of pure altruism are most common, and provide a more clear set of implications about the relationship of parental support to the situations of "Late Childhood". Many of these depend very heavily on the permanent income hypothesis (PIH) and inter-temporal substitution. To summarise, the PIH suggests that individuals would prefer to have constant consumption over the life course equal to an appropriate share of the net present value of their assets and earnings over the life cycle (Campbell and Mankiw 1989), and that getting a smoother path of lifetime consumption is utility improving, even with total lifetime consumption constant.

For altruistic parents, consumption smoothing provides an important motivation for the timing of inter vivos transfers instead of a bequest at the end of the parents life. Consumption smoothing motivates support that may come either in times of distress for a child, resembling insurance, as well as persistent support that comes early in the life cycle when children are particularly likely to consume substantially less than their permanent income, like an allowance (Becker and Mulligan 1997). It may also come as a substitute for a loan, allowing children to, in a sense borrow from your future bequest at a favorably low interest rate.

Altruistic parents may also have structured preferences over the utilities of their children. Commonly, models of this altruism may include a "taste for equality" among children, where parents receive more utility from increasing the consumption of their most unfortunate child (even beyond that which would naturally result from a convex utility function). They may also have a "taste for fairness" which creates complementary in provision for siblings.

## 2.2 Empirical Background

Prior empirical work on inter vivos family support has found evidence that insurance-like parents provide inter vivos transfers and have a "taste for equality" expressed in bequests (McGarry 1999). Contrary to that taste for equality, other work finds substantial allocations to support children going to college which are not equalized later (Haider and McGarry 2018), consistent with inequality-increasing investments suggested by Becker. Parents may provide support which anticipates and mitigates future inequalities, or simply have other tastes regarding giving to children. Loxton (CAEPR working paper) finds that daughters receive inter vivos transfers more often than sons, some of which is explained by future care which is received from daughters more often than from sons, and the rest of which appears to come from a preference for giving to unmarried daughters.

Digging in more deeply to tastes for equality in children, Berry et. al. (working paper) disentangle a taste for equalizing child outcomes from equalizing support between children. They use an experiment on parents of younger children in a developing context, and find a strong preference for equalizing inputs rather than outcomes. Other recent work has advanced the literature by differentiating between different kinds of income shocks, which parents might respond to differently from an insurance motive. Fagereng et. al. (Working Paper) find that parents deplete provide transfers immediately after a transitory shock, but that after a permanent shock they increase savings in anticipation of future transfers.

My work adds this empirical literature by bringing in a more complete picture of the family structure including siblings and by applying new techniques to estimate causes of parental support. First, I confirm the insurance-type parental intervention through causal methods, and that the expense of this intervention does not crowd out inter vivos transfers to siblings. Second, by examining the relationship between grandchildren and support provision, finding that children who become parents receive more when they have their children, but receive less overall than less fertile children. And third, by examining the parental allocation of support between siblings directly, where I find support is strongly associated with

schooling, but that outside of this parents support earlier birth order children more, and that support is provided more often for children that parents might consider less successful, consistent with a taste for equality.

### 3 Data

I use the matched NLSY mother-child data to investigate parental financial support behavior. The 1979 National Longitudinal Survey of Youth (NLSY79) is a rich panel data, which reports many details about the social and financial life of respondents over time starting at ages 14-21 in 1979. I link women in the NLSY79 to their children in the NLSY79 Young Adult survey (NLSY79 YA). By linking mothers to children, I can also link siblings in the data. To begin, the data contain 3,011 mothers and 7,443 children. To construct my dataset, I select a subsample of children and their mothers that meet a few necessary conditions to be able to conduct my analysis. I use data only from members of the NLSY79 who do not die during the sample period (both mother and child), who respond to the financial support questionnaire, and who have a child old enough to be surveyed twice as adults (meaning they were born by 1998 and are currently 18 or older). This last condition is the most important for potentially biasing my results due to the age distribution of women and children in my sample. By the end of my sample period, 2016, the youngest mothers are only 51 years old. Children born very late in their mothers lives, then, are not old enough to appear in my sample. In fact, for the youngest mothers in the NLSY79 cohort, children born after they turned 35 would not appear in my sample.

Figure 1 illustrates the distribution of child ages in my sample after selecting on the age of children.

This is a cause for concern because mothers who have their children while being themselves younger may be systematically different sorts of parents than mothers who delay parenthood, and because younger siblings within a family may be treated differently (even

in adulthood) than older siblings. Despite this limitation, the characteristics of children included in my sample are broadly very similar to those excluded from my sample, and within my analysis I find that these characteristics of concern (maternal age and birth order) have relatively weak impacts on parental financial support behavior. Table 1 presents means of some notable characteristics of mothers in the selected sample.

Unsurprisingly, the single largest deviation is on age, since I select indirectly for older mothers when I select on child age. Mothers in my sample are much less likely to be married than the unselected sample (47.56% versus 55.04%). However, other variables that more directly express the resources available to support adult children like total family income, total family wealth, and the number of children are extremely similar to the unconditional sample. Table A1 and A2 in the appendix report the summary statistics for mothers and children in my sample. Generally, I organize the data at the child level, though there are some applications where the mother level is preferred. In these cases, the switch will be clearly indicated. Characteristics I observe about both mother and child include information about early life conditions, education, household structure including marriage and children, earnings, and, in the case of the mother, wealth. Most importantly, I also observe the child's description of financial support they receive from their relations.

The most important component of the data still to discuss is the financial support variable. First, in the data the financial support variable reported by the child in the NLSY79YA. Each specific child describes the financial support they receive through answers to a series of questions with a limited range of responses. They report (binary) whether anyone is paying part of their living expenses. Those who reported receiving support are asked to quantify the extent of support in terms of how many quarters (rounding up) of their expenses are being paid for them. They are then asked to identify everyone from a long list of possible relations who contributed to that support by relationship (e.g. mother, sister-in-law, step-father). The table below reports the frequency of contribution by source among children receiving any support. It also reports the mean amount of support reported, conditional on

receiving support from that source.

Mothers, as the parent whose survey responses I observe, are the central parent in my analysis. First, the NLSY links children to their mothers. While fathers may be present in the household if the parents are married, fathers who are separated or divorced from the mother will not be followed. As shown in table 3 the mother is the single source most likely to contribute to the financial support of an adult child. It is a limitation of the data that I do not observe fathers directly. As a result, while I do observe financial support from fathers, as well as a number of other relations, my preferred specifications use financial support from the mother. In most cases where the mother and father are married, support from the mother and the father will be identical in my data. Only biological children are surveyed in the NLSY79YA. This limits the subject of my analysis to biological children, rather than adopted children or non-adopted step-children.

## **4 Patterns of Support by Characteristics of Mother and Child**

What does the data have to say about these questions: How do parent's characteristics affect their provision of support to their adult children? How do children's own characteristics, the events and developments in their life affect their parent's provision of support? And, how is the support a child receives affected by spillovers from the lives of their siblings?

In this section, I examine these first two questions pertaining directly to the relationship of parent and child. In my preferred specifications, I will specifically look at support from the child's mother, since this relationship is the most consistent in the lives of the sample children (as opposed to the father, who may not be as present in their children's lives for a variety of reasons).



## 4.1 Cross-sectional Patterns

Before entering into a more rigorous analysis of parental support, it would be useful to give a descriptive overview of parental support for adult children. As a purely correlational exercise to gauge the significance of some associations, I regress an indicator of support from the mother, at the child-year level, on a battery of characteristics which are plausibly important a priori. I estimate equation 1.

$$y_{ct} = \beta X_{ct} + \epsilon_{ct} \tag{1}$$

Where  $y_{ct}$  is the maternal financial support indicator variable for child  $c$  in year  $t$ .  $X_{ct}$  is the vector of explanatory variables.

Regressors are organized into groups of mother and child characteristics, and ordered with time invariant characteristics before time variant characteristics. Results are presented in table 5.

The time-invariant characteristics related to parents potentially having to split up support across children, birth order and the number of siblings, appear to be the most influential. Later birth order children are about 1 percentage point less likely to receive support than earlier children. Number of siblings has a similarly small negative effect, around 1 percentage point. Cumulatively, this would mean that the third child of three children would receive support from their parents about 4 percentage points less often (mean frequency in the sample is 12.22%) than an only child.

Greater magnitudes appear in the time variant characteristics of age, enrollment status, and marital status. Each additional year reduces the probability of receiving parent support substantially, although the squared term suggests a diminishing rate. Essentially, as a child ages they converge toward receiving no support. School enrollment and marriage have magnitudes dramatically higher (around 10 percentage points, varying some across specifications), in opposite directions. School is positively associated with support, and marriage is nega-

tively associated with support. These three characteristics (age, enrollment, and marriage) are both among the most strongly predictive and are all consistent with a general impression that more "mature" children receive less. The weak (around 5%) negative coefficient on earnings (which is the natural log of the child's earnings plus \$1) is also consistent with this interpretation, though it is a very weak effect. For reference, using the  $-0.046$  estimate from Column (3), a child making \$50,000 per year would be 4.24% less likely to receive support than a child making \$ 20,000

Even the most predictive characteristics of the mother are not very strongly predictive. The low magnitude (about 3%) for mother's income (the natural log of her household income + \$1) suggest that mothers with more available financial resources may be more likely to provide support. If parental support depends heavily on mother's current year income, it may not be a reliable source of insurance for children. I will have much more to report about this later.

None of these results should be given a causal interpretation, but they suggest which associations in the data are strongest: Age, Enrollment in School, and Marital Status.

Figure 2 highlights the effects of child enrollment, marital status, and age, and summarizes them in the context of the data. It presents result from estimating the following model:

$$y_{ct} = \beta X_{ct} + \epsilon_{ct} \tag{2}$$

Where  $y_{ct}$  is the maternal financial support indicator variable for child  $c$  in year  $t$ .  $X_{ct}$  is the vector of dummy variables indicating for eight interacted with two marital statuses (married versus not) and two enrollment statuses (enrolled versus not).

It shows a steady convergence toward a near zero support frequency, as children age, with support levels elevated for children still enrolled in some form of schooling and unwed children.

## 4.2 Timing of Support Within a Child's Lifetime

Holding the total value of lifetime transfers and bequests constant, variations in the timing of support can be said to describe timing allocations over the life of a child. Altruistic parents may default to providing financial support during childhood, and retaining transfers for a bequest at the end of life, yet a variety of circumstances may motivate unusual inter vivos transfers to adult children. Economic theory prompts us with difficult to answer hypotheses like "parents provide financial support to smooth lifetime consumption when children are consuming less than the parent's best estimate of their permanent income", "parents with cheaply available liquidity can finance large purchases by allowing children to draw down their inheritances instead of taking market rate loans," and "parents may desire to provide insurance for children, and can provide insurance with lower costs of moral hazard and monitoring." (Each of these prompted by and altruistic desire to smooth lifetime consumption for children). The data presented in the previous section may point us in the direction of more easily implemented intermediate tests, that work away at the edge of these larger questions.

Estimating the previous models, I found that mother's financial support was more common to children who were unmarried, young, and had lower incomes. These all may be associated with consuming less than permanent income. I found that school enrollment was very strongly associated with support, which could be motivated either to support a child's low consumption during schooling or to help finance the human capital investment. Additionally, and surprisingly, I found that having children was negatively associated with financial support. This may be a selection affect related to unobserved characteristics of adults who do and don't have kids, but the sudden expense of supporting a child might be expected to prompt liquidity-motivated parental support.

In order to control for unobserved time-invariant characteristics of the mother and the child, and to more directly answer questions about allocation within a child. I estimate a model with child fixed effects. The presence of a child fixed effect will mean that parameters

in the model are identified off of variation over time in the characteristics of the child (and mother). Specifically, I estimate the model:

$$y_{ct} = \alpha_c + \beta X_{ct} + \epsilon_{ct} \quad (3)$$

Where  $y_{ct}$  is the maternal financial support indicator variable for child  $c$  in year  $t$ .  $\alpha_c$  is a time-invariant child fixed effect.  $X_{ct}$  is the vector of time-variant explanatory variables.

Results of the above regression are presented in table 6. I find directionally similar results except for number of children. In the fixed effects model, the coefficients for mother's household income are much smaller than in the model without fixed effects, suggesting that year to year variation in the mother's available resources are of lesser importance, and that she might be largely basing her financial support expenditures on her own permanent income or that financial support timing is inelastic to her available resources. Additionally, the coefficient for her marital status, while consistently negative, gains statistical significance in some models, suggesting that a mother who marries or remarries during her child's adulthood may be less financially attached to her children, possibly because they predate the marriage, though we should be careful not to read too much into a marginally significant result.

Most importantly, I want to highlight that the effect of having children flips from negative to positive in the child fixed effects model. This model is identified off of over-time variation within a child. In this light, this result suggests that parents may be more likely on the whole to provide financial support to their childless or less fertile children, but that, when allocating support within the lifetime of a fertile child they provide more financial support after their grandchildren are born. This may be coming to help support the new parents with the difficulties and expenses of a new baby. It may come in order to provide, indirectly, resources for the grandchild. Alternatively, this may occur simply because the new grandchild draws the preceding generations into a closer relations, as parents and grandparents coordinate to enjoy and care for a young child in the family.

Estimates for the effect of a child's income are much weaker (an order of magnitude

smaller) in the fixed effects model. This suggests that much of the effect originally observed in table five came from cross sectional variation, and that insurance or consumption smoothing motives on the parts of parents are present effects, but not the main drivers of differential support that favors poorer children. Whether this disparity is explained by allocations across siblings will be better explored later in the paper.

One major weakness of the previous empirical strategy for assessing this allocation within children especially concerns hypotheses about "insurance" provision. A second is that a causal interpretation is not well supported.

In order to more directly assess whether parents provide financial support as a mode of insurance for children in disastrous financial circumstances, and to do so with a clear causal interpretation, I employ a linear panel event study model for a particularly dramatic change in a child's circumstances.

The event I use is a complete loss of earnings (earnings decline from above \$0 to \$0) on the part of the child which is not associated with birthing a child. These shocks might be reflect a durable unemployment spell or a disability, but decompositions of these results suggest they are not driven by a return to education or retraining. The model I estimate is given by equation 4:

$$y_{ct} = \alpha_i + \gamma_t + q_{it}\phi + \sum_{-5}^5 \beta_m X_{c,t-m} + \epsilon_{ct} \quad (4)$$

Where  $y_{ct}$  is the maternal financial support indicator variable for child  $c$  in year  $t$ .  $\alpha_c$  is a time-invariant child fixed effect.  $\gamma_t$  is a survey round fixed effect.  $q_{it}$  is the vector of time-variant control variables.  $X_{c,t-m}$  is a vector of indicators for proximity to the "treatment" period (period  $t = m$ , or 0)

A graph summarizing the results of this estimation is presented in figure 3. I find no evidence of trends in maternal support prior to the child's earnings loss event. After the earnings loss event, children are immediately and persistently more likely to receive financial support from their mother, by between 10 and 20 percentage points. That this effect grows

over time may reflect that support of untreated individuals is declining in the normal fashion while support for the treated population is persistently elevated. The durability of support after the income loss is inconsistent with insurance provision for a fleeting shock and suggests that the income loss event is peculiar and has a persistent effect, and that the maternal response is unlikely to be just a reallocation over time.

### 4.3 Heterogeneity

One very important feature of the setting that the within models remove by construction is the effect of variation in kinds of mothers, either by temperament and values of in the permanent income from which they spend to support adult children. Both of these characteristics are, unfortunately, observable to researchers despite their theoretical significance. Whether all parents are basically the same in their supporting behaviors, or whether some are very different than others has important social and economic implications. Parental support in adulthood, like parental investment in early childhood, may be an important vector for the inter generational transfer of earnings power. If well to do parents do this more, then this will be an important mechanism for economic inequalities to be transmitted from generation to generation.

The single static variable available in the NLSY79 characterizing the mother which, a priori, is most likely to reflect both some interesting components of the mothers unobserved temperament and her permanent income is her percentile rank on the AFQT administered to all NLSY79 respondents during their own youth (1981). As a result of the oversampling of poor, black, and hispanic individuals in the NLSY79, the sample median in my data is at the 25th percentile. To maximize statistical power for subsample tests, I use this cutoff in my main specification for regressions on children of high versus low AFQT mothers. In these regressions, I estimate the same equation used for the previous table in this section. The table below presents results for the equation in all mother, mothers with AFQT score above the 25th percentile, and mothers with scores below the 25th percentile. These regressions

use equation 3 and are presented in table 7.

I find very different results between high and low AFQT mothers. Between these two groups, results are similar only for the age of the child and marital status of the mother. Low AFQT mothers are less likely to support children enrolled in school and less likely to provide support to parents after the birth of grandchildren. They are also less likely to retract support from married children and children with high earnings. Last, support from low AFQT mothers is related to her current income, and much more strongly than in the full sample model but support is unrelated to current income for High AFQT mothers. This may be the result of low AFQT mothers more frequently consuming (including consuming the good "support for children") on a "rule of thumb" basis rather than from their permanent income (a rule of thumb consumer does not save or borrow to spend according to their permanent income, but instead spends whatever income they have in the period in which they receive it).

These results are consistent with a view of higher AFQT mothers being more capable of insuring their children, of them supporting their children's investment in education, and of them investing indirectly in their grandchildren. All of these may contribute substantially to the income potential and utility of their children and to the inter-generational transmission of ability and earnings, possibly even across multiple generations as a time.

## **5 Allocation of Support Between Children**

Allocation over time is certainly not the only allocation of interest that parents make. Total allocation to children and allocation among children are particularly compelling because they much more directly address the key motivations that our theoretical models build into parents utility functions. The first of these key motivations is altruism toward children. More altruistic parents will provide more support to all children. Second, parents may have a taste for equality among children which would motivate greater support for their less

fortunate, less happy, or poorer children. Finally, parents may have a taste for fairness (or the perception of fairness) among children which would motivate support for children to be similar across children (it may be "unfair" to only give support to my low income child").

In this section, I seek to address questions of allocation between children. In order to do this, I estimate this model:

$$y_{ct} = \alpha_{mt} + \beta X_{ct} + \epsilon_{ct} \tag{5}$$

Where  $y_{ct}$  is the maternal financial support indicator variable for child  $c$  in year  $t$ .  $\alpha_{mt}$  is a mother-year fixed effect.  $X_{ct}$  is the vector of sibling-variant explanatory variables.

Because of the mother-year fixed effect, this model is identified off of variation between siblings. For the purposes of the hypotheses I want to examine, this is an advantage, but this also has a very important secondary advantage. Rather than controlling for unobserved time invariant characteristics of the child and mother, the fixed effect will instead control for the time variant characteristics of the mother. It may not be immediately obvious how this is superior. However, many of the unobserved characteristics we may be most concerned with controlling for is actually time-variant. The state of the relationship between a mother and her family, her own (slowly) evolving permanent income, and more. Additionally, the mother-year fixed effect is important to understanding the results as reflecting an allocation between siblings. Including a mother-year fixed effect causes parameters to be identified off of the variation between siblings (siblings are the only groups that share a mother year). Results from estimating this model are presented in Table 8, alongside results from the model with no fixed effects and the child fixed effects model.

The sign of the effect of children flips back to negative with mother-year fixed effects, suggesting again that parents are allocating toward their childless and less fertile children. Other than this, the main differences in results are insignificant differences in the magnitudes of parameters. Younger children receive similar support according to their age, and birth order plays no significant role. Children enrolled in school are much more likely to receive



financial support from parents, and the effect of child's earnings remains negative (poorer children more often receive support), but has a modestly stronger effect than in the child fixed effect model.

This tells us a good deal about the drivers of differential support between children, but not whether supporting children is complementary or substituted across sibling. In order to do this, I return to the child fixed effect model, and consider the contemporaneous effects of developments in a child's life, but add in consideration for that child's sibling (for simplicity, I reduce my sample to families with exactly two children, so that there is precisely one sibling for this analysis to refer to). In this context a child fixed effect identifies one child, their sibling, and their mother. Results of this regression on both a child's own characteristics and their sibling's are presented in table 9 (and follow equation 3). I run this regression in three samples, one where I consider both the first and secondborn as observations (with errors clustered by mother). I also run this regression in subsamples of just the firstborn and just the secondborn, in case there are important differences between these two.

These results suggest very weak substitution around college enrollment or marriage. More substitution is apparent in support according to sibling's earnings. This effect appears to be driven by substitution away from the firstborn. Interestingly, there is an increase in support not only when a child has a baby, but also when their sibling has a baby (these coefficients do not differ from each other significantly either, the effects of about the same size). This suggests some support for children may be *complementary*. I cannot give evidence to support any particular interpretation of the reason for this complementarity. Interestingly, this effects also seems to be driven entirely by effects of the secondborn on the first.

To further investigate possible substitution or complementarity, I set up a model that considers the allocation problem directly from the perspective of the mother. In each period, parents evaluate which if any of their children to support, given the characteristics of their children. In order to more precisely replicate this form of allocation decision, I employ a multinomial logit model, where mothers can allocate to neither child, their first child, or

their second. For simplicity and clarity of the model, I again restrict my sample to mothers of exactly to children. Maternal support in these families is described in table 10. The most common allocation is to provide no support to adult children, which occurs in over two thirds of my observations.

I estimate the model:

$$P(y_{mt}|X_{c_1t}, X_{c_2t}, X_{mt}) = \frac{\exp(\beta_{1y}X_{c_1t} + \beta_{2y}X_{c_2t} + \beta_{my}X_{mt})}{\sum_{Y=0}^3 \exp(\beta_{1y}X_{c_1t} + \beta_{2y}X_{c_2t} + \beta_{my}X_{mt})} \quad (6)$$

Where  $y_{mt}$  is the maternal support of mother  $m$  in year  $t$  from the set of possible states  $Y$ , determined as a function of the characteristics of the mother  $X_{mt}$  (which includes a family fixed effect in some specifications), and her first and second child, respectively  $X_{c_1t}$  and  $X_{c_2t}$ .

I conduct this analysis with and without fixed effects for the family unit. In the absence of the family fixed effect, the model is identified off of both within family variation over time, and cross sectional variation between family units. Results for this regression are presented in table 11. In the model without family fixed effects, firstborns see a significant increase in receipt when they are enrolled in school, and significant decreases when they are married and when they have higher earnings. Secondborns see similar decreasing effects in their own support receipt from their marriage and earnings, but the increase in their support from enrollment often comes together with an older sibling who is also receiving support. Finally, the mother characteristics of age, current year income, and AFQT score are all (somewhat weakly) associated with greater probability of support being provided to either or both children. This suggests a picture where maternal resources benefit both children (and a comparison of coefficients does not suggest a difference in their benefit to children).

There is only one instance of a statistically significant spillover from one child onto the receipt probability of the other: when the younger child has children. This does not significantly increase the probability of support to the second child (the one who had a baby) or to both children, but does substantially decrease support to the first child. This might reflect substitution between children, but given that the second child does not see an

increase in their own support, it may be more likely that this is substitution between the firstborn and the new grandchild. Notably, this is the exact opposite of the effect observed in the non-multinomial model with family fixed effects, so it may be driven by cross-sectional variation.

The model with family fixed effects is identified entirely off of within family variation. Many observations are lost from the sample in this case, because it is fairly common for families in my sample to have no variation in maternal support during the period. This is really the ideal setting for this analysis, but the loss of observations is very costly to the statistical power of this model in my dataset, so null results should be interpreted cautiously. Nonetheless, there are still several interesting findings to report, presented in table 12. For the firstborn, enrollment and marriage have the expected effects on support to the firstborn or to both children. The firstborns own earnings coefficient is null but negative, and marginally significant and negative for both children receiving. This too is consistent with prior results.

The characteristics of the secondborn all have null effects on the firstborn. For the secondborn, enrollment has an insignificant positive effect, and earnings have a significant negative effect (about twice as large as for the firstborns own earnings). Spillovers across siblings are all insignificant in exclusive transfers, but the birth of a child to the firstborn substantially increases the likelihood of both children being supported.

These results offer little evidence of any substitution or complementary in support for adult children, especially in regards to supporting poorer children (either to smooth their lifetime income or to provide insurance for an unexpected shock), as suggested by the cross-sibling parameters for children's earnings.

## 6 Conclusion

In this paper I have investigated a range of hypotheses concerning allocate their resources for inter vivos support of adult children. I have found consistent evidence that parental financial

support provides liquidity and consumption support, especially for educational investments. These findings are consistent with a strong life-cycle consumption smoothing motivation on the part of parent, and consistent with prior research. I also find consistently that children struggling economically receive more financial support than their more successful siblings, consistent with a taste for equality among children or a preferential option for unfortunate children. In addition to equalizing across earnings differences in children, I also find that these "equalizing" transfers support children with less success in their personal relationships: unmarried children and those with fewer children of their own. Finally, I consistently find that allocation of financial support is independent across adult child recipients. Despite budget constraints, providing financial support to one adult child does not crowd out support to their siblings, especially in the context of insurance or consumption smoothing related support. I consistently find no effect of a sibling's income on receipt of support from the mother.

The only case where I find that developments in a siblings life affect a child's receipt of support is the birth of a sibling's child. In this case, my findings are mixed. Results in table 9, identified off of within-family variation, suggest The birth of a child into the family has an unusual affect: grandchildren induce increased support from the grandparent to all of their children (both the grandchild's parent and their aunts or uncles). In the contrary direction, table 11 suggests that younger siblings having children reduces support to older children. This result, however, is identified with between and within family variation, and disappears after removing between-family variation. I interpret this combination of results as tentatively indicating a complementarity within families, and also suggesting that families that have early fertility in younger siblings are simply less likely to be supporting the older sibling. In fact, there may be reverse-causation here: the lack of support for older siblings to pursue, for example, a supported college education may redirect the family planning choices of younger children, though this is mostly speculation. There are a number of reasons this apparent complementarity may occur, and further research would be necessary to disentangle

them. To name a few worth consideration: it may be that children bring a whole extended family network closer together, thus bringing an aunt and grandparent closer to one another, or it may be that children are particularly competitive for their parents resources around the birth of a grandchild, such that providing support to assist with the new baby would also require transfers to the other siblings to resolve relationship conflicts.

In child fixed effect model, I find results consistent with a motive form parents to help smooth life cycle consumption, provide liquidity for important investments in launching a successful career or family, and provide children with insurance that may enable more profitable risk-taking. However, I find that more cognitively able parents provide more support for adult education, for grandchildren, and provide more support while a child has low income. Of special note, I find that only low AFQT mothers support depends on their contemporaneous income. Their consumption of support for children, then, is less reliable for insurance and may suggest that they are providing support on a "rule of thumb" basis. This decreased support for adult children and for grandchildren may contribute to so called "cycles of poverty" not only through more unfortunate childhoods in that household, but persisting into adulthood by reducing the reliability of family insurance and extending across multiple generations as these mothers also provide less support around the birth of a grandchild. Further research with the modern time series tools commonly used by macroeconomists may help to shed more light on this mechanism as a potential driver of transmission of inequality through families.

Finally, I want to highlight that, while the multinomial logit results suggest different treatment of firstborns versus their later-order siblings, my earlier results with mother-year fixed effects (identified off variation between siblings) suggest extremely weak birth order effects favoring low birth order children after accounting for differences in observables. This may be because firstborns are different from secondborns for "pre-market" reasons, to borrow a term from the discrimination literature. It may also be the result of a sort of learning on the parents, so that children's needs around events in the life course are better anticipated

for later birth order children after they have been experienced with the first.

Future research in this area may be assisted by gathering more detailed information about the location and interaction of members of these family networks, to disentangle the possible causes of some of apparent complementarities: whether they reflect rivalrous competition for resources, or cooperation and the enjoyment of public goods in a family. Revisiting this analysis may also be useful, especially in the lower powered analyses, after all of the NLSY79YA children are older and all of them have been observed in adulthood.

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## Tables

Table 1: Effect of Sample Selection Conditions on Selected Mother Characteristics

Variable	Unconditional	Born by 1998	Never Died	Support Survey	18 or Older
# of Mothers	3,011	2,939	2,920	2,829	2,829
# of Children	7,443	7,068	6,823	6,434	6,434
Age	40.58	41.91	41.92	38.69	47.08
Married	55.04%	55.14%	55.57%	56.45%	47.56%
Family Income	\$53,515	\$53,763	\$54,462	\$49,246	\$51,849
Family Wealth	\$124,585	\$132,664	\$135,018	\$103,443	\$151,238

Values presented are conditional means. Conditions accumulate moving rightward across columns, such that Column 3 presents means conditional on both a child being born after 1998 and having never died during the sample period. Support Survey here indicates having completed the survey question on parental support

Table 2: Summary of Mother Characteristics

Variable	Mean	St.Dev.	Min	Max
<i>Time Invariant Characteristics</i>				
AFQT %	36.74	27.50	1	99
Black	.32	.47	0	1
Hispanic	.20	.40	0	1
<i>Time Variant Characteristics</i>				
Age	40.62	2.24	30	61
Number of Children	2.51	1.22	1	11
Married	.55	.36	0	1
Divorced or Separated	.24	.31	0	1
Years of Schooling	13.40	2.56	0	20
Total Family Wealth (\$1000s)	125.63	230.98	0	5,422.04
Earnings (\$1000s)	20.16	18.34	0	396.97
Spouse's Earnings (\$1000s)	23.02	29.94	0	375.09

For time invariant characteristics, statistics are calculated as the mean across mothers.

For time variant characteristics, means are calculated across mother-years, such that mothers will be weighted more in the mean if they appear more often in the sample.



Table 3: Summary of Child Characteristics

Variable	Mean	St.Dev.	Min	Max
<i>Time Invariant Characteristics</i>				
Female	.49	.50	0	1
Black	.36	.48	0	1
Hispanic	.23	.42	0	1
Childhood Math Scores	48.19	23.19	1	99
Childhood Reading Scores	55.16	25.29	1	99
<i>Time Variant Characteristics</i>				
Number of Siblings	2.08	1.44	0	10
Age	26.56	5.92	18	48
Married	.13	.34	0	1
Divorced or Seperated	.04	.20	0	1
Number of Children	.77	1.21	0	10
Enrolled in School	.49	.49	0	1
Earnings (\$1000s)	19.56	23.49	0	175
Homeowner	.18	.38	0	1

For time invariant characteristics, statistics are calculated as the mean across children. For time variant characteristics, means are calculated across child-years, such that children will be weighted more in the mean if they appear for a greater duration in the sample.

Table 4: Summary of Child Supporting Behavior

Support Source	Frequency		Degree of Support	
	Mean	St.Dev.	% Of Expenses	St.Dev.
Any Source	.2733	.4456	75.38%	.2753
Mother	.1722	.3776	77.49%	.2719
Father	.1164	.3207	79.99%	.2663
Other Source	.0419	.2003	64.94%	.2707

Frequency is calculated as the mean of a binary indicator for support receipt from the named source, and is equivalent to the share of years in which a sample child is receiving support. Degree of Support is calculated conditional on support from a source (0's are excluded), and is the mean of the expense share reported paid for the child.

Table 5: Regression Results for Maternal Support on Mother and Child Characteristics

	(1)	(2)	(3)
<i>Child Characteristics</i>			
Female	0.00124 (0.00602)	0.00696 (0.00600)	0.00171 (0.00596)
Black	-0.0118 (0.00881)	0.00378 (0.00967)	-0.00121 (0.00963)
Hispanic	-0.0181** (0.00857)	-0.000900 (0.00952)	-0.00202 (0.00939)
Birth Order	-0.0152*** (0.00405)	-0.0122*** (0.00415)	-0.0101** (0.00410)
Number of Siblings	-0.00864*** (0.00261)	-0.0104*** (0.00263)	-0.0115*** (0.00255)
Age	-0.0187*** (0.000911)	-0.103*** (0.00519)	-0.0854*** (0.00536)
Age <sup>2</sup>		0.00151*** (0.0000853)	0.00127*** (0.0000872)
Enrolled in School	0.113*** (0.00745)	0.0813*** (0.00748)	0.0703*** (0.00745)
Married	-0.109*** (0.00524)	-0.0941*** (0.00522)	-0.0885*** (0.00562)
Number of Children	-0.00664*** (0.00232)	-0.0231*** (0.00442)	0.00164 (0.00681)
Number of Children <sup>2</sup>		0.00354*** (0.000757)	-0.000352 (0.000963)
Earnings	-0.0112*** (0.000841)	-0.00950*** (0.000849)	-0.0461*** (0.00309)
<i>Mother Characteristics</i>			
Income	0.0325*** (0.00284)	0.0280*** (0.00293)	0.0307*** (0.00291)
AFQT Score		0.000591*** (0.000171)	0.000582*** (0.000169)
Constant	0.192*** (0.0332)	-1.918*** (0.277)	-1.691*** (0.274)
Additional Regressors	N	N	Y
Observations	19739	19739	19739
R <sup>2</sup>	0.182	0.201	0.211

Results from linear regression on indicator of financial support from mother. Suppressed Child controls are Firstborn, Divorced or Separated, Income = 0. Suppressed Mother controls are Age, Age Squared, Marital Status Dummies  
\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 6: Regression Results for Maternal Support Without and With Child Fixed Effects

	No Fixed Effect		Fixed Effect	
<i>Child Characteristics</i>				
Age	-0.0187*** (0.000911)	-0.0854*** (0.00536)	-0.0144*** (0.000955)	-0.102*** (0.00560)
Age <sup>2</sup>		0.00127*** (0.0000872)		0.00153*** (0.0000883)
Enrolled in School	0.113*** (0.00745)	0.0703*** (0.00745)	0.105*** (0.00865)	0.0732*** (0.00860)
Married	-0.109*** (0.00524)	-0.0885*** (0.00562)	-0.100*** (0.00883)	-0.0914*** (0.0104)
Number of Children	-0.00664*** (0.00232)	0.00164 (0.00681)	0.0324*** (0.00493)	0.0427*** (0.00813)
Number of Children <sup>2</sup>		-0.000352 (0.000963)		-0.00289** (0.00134)
Earnings	-0.0112*** (0.000841)	-0.0461*** (0.00309)	-0.00945*** (0.00109)	-0.00685*** (0.00108)
<i>Mother Characteristics</i>				
Married	-0.00311 (0.00738)	-0.00397 (0.0106)	-0.0286** (0.0121)	-0.0200 (0.0218)
Income	0.0325*** (0.00284)	0.0307*** (0.00291)	0.0102*** (0.00386)	0.00873** (0.00376)
Constant	0.192*** (0.0352)	-2.016*** (0.285)	0.582*** (0.0276)	1.766*** (0.0863)
Observations	19739	19739	19739	19739
R <sup>2</sup>	0.176	0.206	0.0829	0.103

Columns 1 and 2 present coefficients from table 5 columns (1) and (3) for comparison.

Results in columns 3 and 4 come from linear regression on indicator of financial support from mother. Suppressed child control is Divorced or Separated. Suppressed mother controls are indicators for divorced, separated.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 7: Results for Maternal Support Within Children: Heterogeneity by Maternal AFQT

	Full Sample	High AFQT	Low AFQT
<i>Child Characteristics</i>			
Age	-0.102*** (0.00560)	-0.104*** (0.00790)	-0.0906*** (0.00817)
Age <sup>2</sup>	0.00153*** (0.0000883)	0.00155*** (0.000127)	0.00137*** (0.000127)
Enrolled in School	0.0732*** (0.00860)	0.0856*** (0.0118)	0.0450*** (0.0124)
Married	-0.0914*** (0.0104)	-0.112*** (0.0142)	-0.0502*** (0.0144)
Number of Children	0.0427*** (0.00813)	0.0652*** (0.0115)	0.0103 (0.0117)
Number of Children <sup>2</sup>	-0.00289** (0.00134)	-0.00648*** (0.00228)	0.00109 (0.00164)
Earnings	-0.00685*** (0.00108)	-0.00890*** (0.00169)	-0.00472*** (0.00134)
<i>Mother Characteristics</i>			
Married	-0.0200 (0.0218)	0.0126 (0.0330)	-0.0437 (0.0280)
Income	0.00873** (0.00376)	0.000828 (0.00653)	0.0160*** (0.00423)
Constant	1.766*** (0.0863)	1.877*** (0.122)	1.526*** (0.125)
Observations	19739	10918	8821
R <sup>2</sup>	0.103	0.127	0.0709

Results from linear regression on indicator of financial support from mother. High AFQT defined as a score above the 25th percentile. Low AFQT are all others.

Suppressed child controls is Divorced or Separated. Suppressed mother controls are Divorced, Separated.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 8: Results for Maternal Support Between Children

	No FE	Child FE	Mother-Year FE
Birth Order	-0.0101** (0.00410)		-0.00690 (0.00662)
Age	-0.0854*** (0.00536)	-0.102*** (0.00560)	-0.0972*** (0.00792)
Age <sup>2</sup>	0.00127*** (0.0000872)	0.00153*** (0.0000883)	0.00145*** (0.000129)
Enrolled in School	0.0703*** (0.00745)	0.0732*** (0.00860)	0.0670*** (0.0109)
Married	-0.0885*** (0.00562)	-0.0914*** (0.0104)	-0.0875*** (0.00973)
Number of Children	0.00164 (0.00681)	0.0427*** (0.00813)	-0.0162** (0.00637)
Number of Children <sup>2</sup>	-0.000352 (0.000963)	-0.00289** (0.00134)	0.00240** (0.00108)
Earnings	-0.0461*** (0.00309)	-0.00685*** (0.00108)	-0.00799*** (0.00113)
Constant	-2.016*** (0.285)	1.766*** (0.0863)	1.787*** (0.126)
Observations	19739	19739	19739
R <sup>2</sup>	0.206	0.103	0.113

Column 1 reports coefficients from Table 5 Column 3. Column 2 reports coefficients from Table 6 Column 4. Nothing is suppressed on Column 3, and all variables which are not regressors in this model have their coefficients suppressed in this table.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 9: Regression Results in Families with Two Children: Firstborn and Secondborn Subsamples

	(Both Siblings)	(Firstborn Only)	(Secondborn Only)
<i>Child's Own Characteristics</i>			
Age	-0.0705*** (0.0163)	-0.0714*** (0.0240)	-0.0375 (0.0273)
Enrolled in School	0.103*** (0.0200)	0.0983*** (0.0274)	0.119*** (0.0316)
Married	-0.115*** (0.0242)	-0.115*** (0.0319)	-0.0982** (0.0383)
Number of Children	0.0581** (0.0229)	0.0534 (0.0351)	0.0582* (0.0346)
Earnings	-0.0441*** (0.00786) (0.0761)	-0.0306*** (0.0111) (0.112)	-0.0661*** (0.0136) (0.127)
<i>Child's Sibling Characteristics</i>			
Enrolled in School	-0.0145 (0.0185)	0.0322 (0.0228)	-0.0289 (0.0326)
Married	-0.0111 (0.0273)	0.00462 (0.0362)	-0.0122 (0.0395)
Number of Children	0.0516** (0.0261)	0.0829*** (0.0278)	0.00200 (0.0443)
Earnings	-0.0112* (0.00675)	-0.0125 (0.00945)	-0.000291 (0.0133)
<i>Mother's Characteristics</i>			
Married	-0.0230 (0.0623)	-0.0841 (0.0879)	0.00632 (0.109)
Income	0.0173 (0.0119)	0.00840 (0.0139)	0.0233 (0.0187)
Constant	1.721*** (0.236)	1.650*** (0.354)	1.382*** (0.380)
Observations	4571	2171	2020
R <sup>2</sup>	0.126	0.113	0.159

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\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 10: Summary of Transfers In Sibling Pairs

Maternal Support	Number	Percent
Neither Child	1,416	63.27%
Firstborn Only	191	8.53%
Secondborn Only	450	20.11%
Both	181	8.09%
Total	2,238	100.00%

Table based on supporting behavior of mothers of exactly two children, both of whom are qualified adults in the sample period.

Table 11: Multinomial Logit without Family Fixed Effects

	Firstborn Only	Secondborn Only	Both
<i>Firstborn</i>			
Enrolled in School	0.723*** (0.239)	-0.174 (0.205)	0.133 (0.271)
Married	-1.962*** (0.350)	-0.0296 (0.201)	-3.460*** (0.842)
Number of Children	-0.320 (0.227)	-0.255 (0.170)	-0.510 (0.387)
Earnings	-0.467*** (0.0952)	0.0847 (0.0917)	-0.468*** (0.104)
<i>Secondborn</i>			
Enrolled in School	0.271 (0.225)	0.622*** (0.181)	0.709*** (0.262)
Married	0.251 (0.322)	-2.277*** (0.466)	-0.777 (0.627)
Number of Children	-0.492** (0.240)	-0.0986 (0.619)	-0.422 (0.361)
Earnings	-0.0737 (0.0996)	-0.587*** (0.0743)	-0.640*** (0.108)
<i>Mother</i>			
Age	1.291* (0.676)	0.776 (0.482)	1.595** (0.698)
Married	-0.273 (0.457)	-0.405 (0.367)	-0.378 (0.608)
Income	0.339** (0.149)	0.288** (0.120)	1.003*** (0.232)
AFQT	0.00694* (0.00420)	0.00875** (0.00370)	0.00768 (0.00530)
Constant	-34.02* (17.73)	-17.73 (12.35)	-38.11** (17.99)
Observations	2003		

Presented are results from a multinomial logit regression without family fixed effects. Reference category is for the mother to support neither child. Results are suppressed for firstborn's: divorced or separated indicator, number of children<sup>2</sup>, and indicator for earnings=0. Results are suppressed for secondborns': divorced or separated indicator, number of children<sup>2</sup>. Results are suppressed for mother's: Age<sup>2</sup>, and indicators for divorced and for separated marital status.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



Table 12: Multinomial Logit with Family Fixed Effects

	Firstborn Only	Secondborn Only	Both
<i>Firstborn</i>			
Enrolled in School	0.944** (0.449)	-0.319 (0.309)	0.112 (0.498)
Married	-1.490* (0.871)	0.259 (0.384)	-44.95*** (2.911)
Number of Children	-0.271 (0.716)	-0.0491 (0.381)	9.257*** (1.988)
Earnings	-0.281 (0.187)	0.0531 (0.122)	-0.286 (0.214)
<i>Secondborn</i>			
Enrolled in School	0.196 (0.387)	0.251 (0.286)	0.381 (0.482)
Married	-0.436 (0.656)	-1.839*** (0.648)	-0.416 (1.198)
Number of Children	-0.0375 (1.144)	0.198 (0.587)	-1.398 (1.236)
Earnings	-0.231 (0.184)	-0.542*** (0.135)	-0.733*** (0.207)
<i>Mother</i>			
Age	0.593 (1.034)	0.456 (0.707)	-0.626 (1.299)
Married	-0.502 (0.595)	-0.627 (0.620)	-0.514 (0.799)
Income	0.232 (0.252)	0.254 (0.213)	0.489 (0.461)
Observations	1016		

Presented are results from a multinomial logit regression with family fixed effects. Reference category is for the mother to support neither child. Results are suppressed for firstborn's: divorced or separated indicator, number of children<sup>2</sup>, and indicator for earnings=0. Results are suppressed for secondborns': divorced or separated indicator, number of children<sup>2</sup>. Results are suppressed for mother's: Age<sup>2</sup>.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

# Figures

Figure 1: Histogram of Child Age

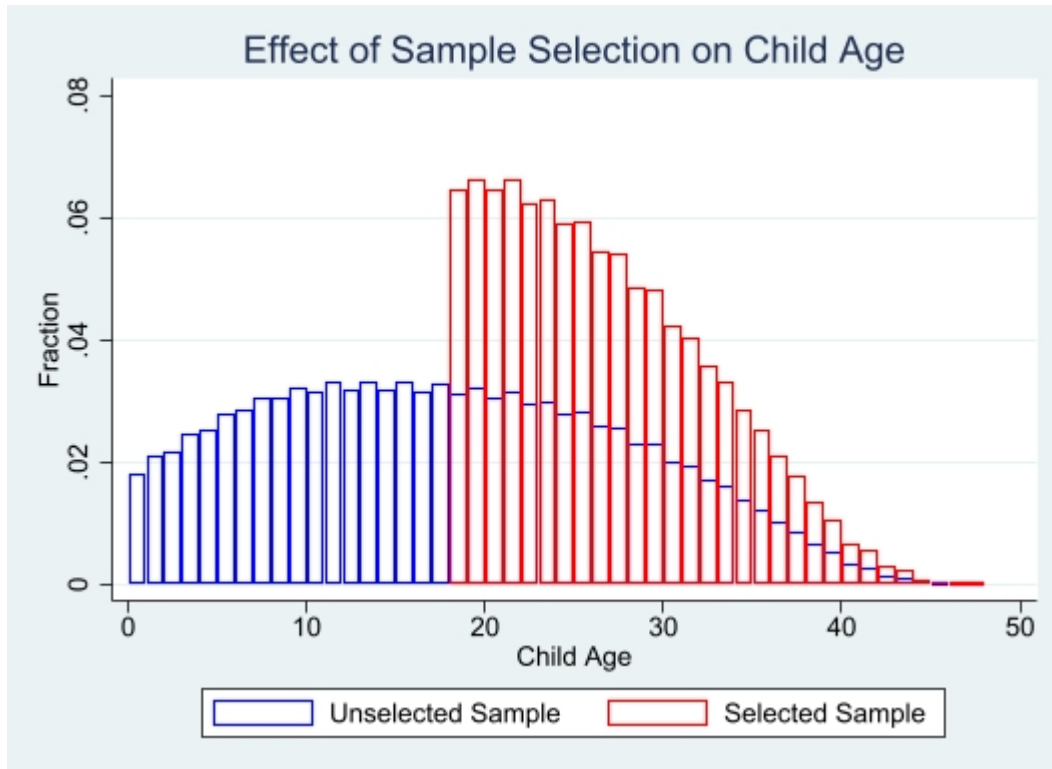


Figure 2: Non Parametric Regression Results

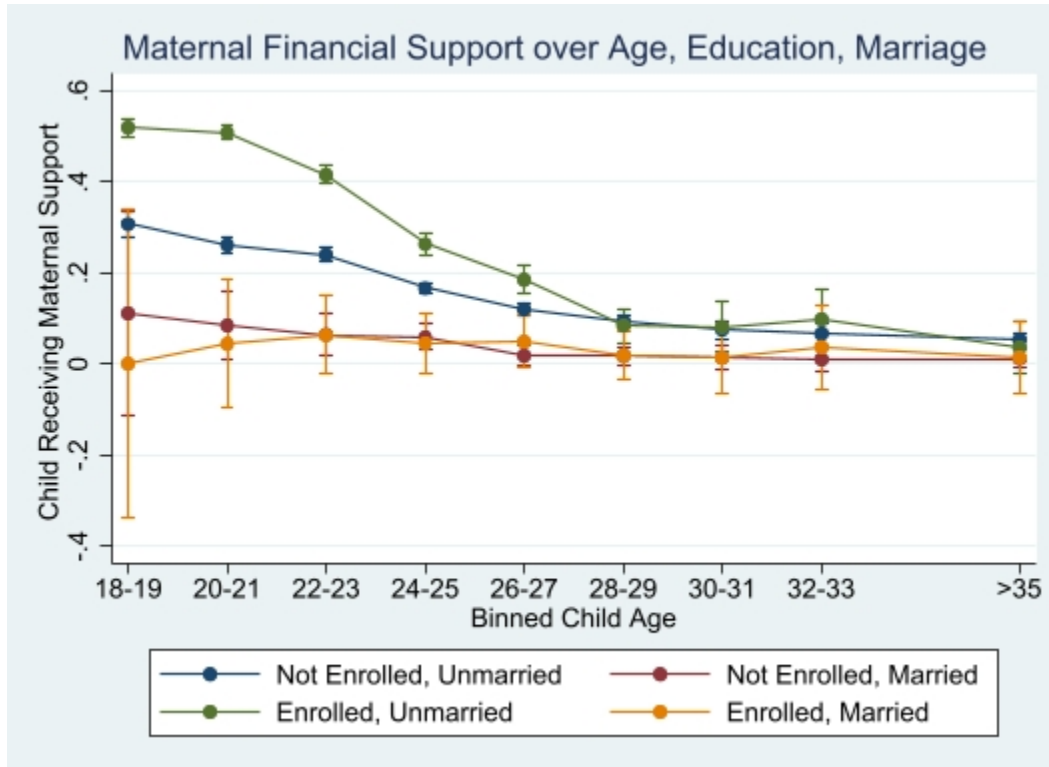


Figure 3: Regression Results for Event Study of Child's Total Loss of Income

