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ABSTRACT

Families provide substantial care to older adults with functional limitations. Policies that incentivize work have the potential to reduce this valuable care. This study uses the Health and Retirement Study (HRS) and a simulated instrument approach to examine the consequences of increases in the generosity of the Earned Income Tax Credit (EITC), a work-contingent cash benefit, for the care that parents receive from their EITC-eligible daughters. We find that increases in EITC generosity reduce the care that parents receive from their EITC-eligible daughters, especially older parents and those with functional limitations. To assess the full effect of this reduction in caregiving, we examine whether financial transfers increase as a substitute for reduced care, whether other adult children fill the care gap left by EITC-eligible daughters, and whether paid caregiving increases in response to declines in family care. We find no evidence of increased financial transfers and care gaps remain for older parents that are not filled by other children or paid care providers. We conclude that an unintended consequence of the EITC is that the older parents of EITC recipients receive less care from their children overall in response to increased EITC benefit generosity.

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INTRODUCTION

Family members are the primary source of caregiving for older adults with care needs. Family care provided to adults with activity limitations is estimated to be worth $600 billion annually, which is similar to total spending on paid long-term services and supports (Reinhard et al., 2023). Though estimates of the total number of family caregivers in the U.S. vary depending on how care recipients and caregivers are defined, many Americans provide unpaid care to older adults. About 34 million U.S. adults provide care to someone 50 years or older (Burch et al., 2019) and 17.7 million provide care to an adult age 65+ with activity limitations (National Academies of Engineering, Science, and Medicine, 2016).

In their working years, caregivers face trade-offs between family caregiving and paid work. Caregiving for older adults is negatively associated with women's labor force participation and positively associated with retirement (Van Houtven, Coe, & Skira, 2013). Care from adult children to parents increases in times of high unemployment when the opportunity cost of care is lower (Mommaerts & Truskinovsky, 2020). For many low-income families with children, these tradeoffs are further complicated by the incentives embedded in social safety net programs, which increasingly provide benefits only to those who work, effectively raising the opportunity costs of providing care to family members.

One of the largest such work-contingent programs, the Earned Income Tax Credit (EITC), has the potential for important interactions with family care because of its size, its effects on labor supply, and its benefits structure. The EITC is large in scope, providing $60 billion in benefits to approximately 31 million households each year (Internal Revenue Service (IRS), 2024). Unmarried taxpayers receive about three-quarters of all EITC benefits (Crandall-

Hollick & Falk, 2023), and the vast majority of beneficiaries are unmarried mothers of dependent children.

The population eligible for substantial EITC benefits overlaps with those likely to provide care to parents. A substantial number of caregivers for older adults also have children at home. Burch et al. (2019) estimate that 7 million caregivers for adults age 50+ are working parents to children under 18, and Lei et al. (2023) estimate that 24% of adult child caregivers to those age 65+ have children under 18 in their household. Research on caregiving shows that daughters, and unmarried daughters in particular, play a central role in providing care for parents (Fingerman & Birditt, 2011). These features make the EITC an interesting policy context in which to examine how work-contingent cash transfers impact the care that adult children provide to their parents.

Despite the well-documented, positive effects of the EITC on employment (e.g., Eissa & Liebman, 1996; Meyer & Rosenbaum, 2001; Schanzenbach & Strain, 2021), we are only starting to understand how it impacts time spent on non-work activities, including caregiving. Previous work on changes in time use has focused largely on the impact of the EITC on time spent with the children of recipients (e.g., Bastian & Lochner, 2022; Michelmore et al., 2024; Michelmore & Pilkauskas, 2021).[1] In this paper we examine whether increased EITC generosity crowds out the time help that older adults receive from their EITC-eligible daughters. We leverage plausibly exogenous federal and state variation in EITC benefits between 1992 and 2014, providing the first causal evidence of the impact of increased EITC generosity on the care received by recipients' parents. Drawing on the rich data on care from the Health and Retirement Study, we are able to differentiate between chore help which is unconditional on parental need and care for

[1] Only one other paper (Wiersma Strauss, 2024), has examined its impact on care for adults and we discuss this paper further in the Background section.

parents with care needs. We further consider whether any decline in care from EITC-eligible daughters is offset by larger financial transfers, a greater use of paid care, or increases in care from other children. These rich data allow us to provide an estimate of the cost to parents of replacing lost care hours from children due to increased EITC generosity.

The EITC may impact caregiving through its effect on labor supply and on the income of adult, EITC-eligible daughters. Because the EITC has been shown to increase the labor supply of single mothers, it may reduce the amount of time that adult daughters have available to provide care to their parents. Because the credit increases income, it also increases the opportunity costs of providing care, which has been shown to reduce care (Mommaerts & Truskinovsky, 2020). Time and money transfers may be substitutes for one another (Couch et al., 1999), so changes in benefit generosity may lead adult daughters to substitute financial transfers for care. Declines in care from EITC-eligible daughters may also affect the financial transfers and care provided by other adult children (Checkovich & Stern, 2002; Lin & Wolf, 2020; Pezzin et al., 2015) or may increase the use of paid care (Arora & Wolf, 2018; Van Houtven & Norton, 2004). We examine each of these channels through which EITC generosity could affect care provided to parents.

Our results suggest that increases in EITC generosity reduce the chore help and help with functional limitations parents receive from their EITC-eligible daughters, especially parents aged 65 and older. We find evidence that other children may step in to provide chore help in response to increased EITC generosity. We find no evidence that the decline in care for functional limitations that parents receive from their EITC-eligible daughters is compensated by increases in financial transfers or increases in hours of care from other children, but we do find some evidence of an increase in use of paid care. We conclude that older parents with EITC-eligible adult children receive less care as a function of increased EITC generosity and, to the extent that

they compensate with paid care, this does not completely offset the decline in care that EITC-eligible daughters provide, nor is it funded by financial transfers from their adult children.

Our findings highlight an important unintended consequence of including work requirements in social programs and have implications for both the well-being of older adults and the structure of social safety net programs. Over the last several years, there have been many debates about whether to impose work requirements in other programs such as Medicaid and food stamps, and one of the primary reasons why the 2021 Child Tax Credit (CTC), which provided benefits to families with children regardless of employment, was not made permanent was due to debates about whether the benefit should be contingent on employment. Our work illustrates that an important unintended consequence of these work requirements is that recipients will have less time to provide care to their own parents, and that this care gap is unlikely to be fully compensated for by other adult children or paid help. Beyond the individual economic and health costs that parents may incur from a loss in care, family care has been shown to reduce nursing home entry and the use of paid home health care (Arora & Wolf, 2018; Choi et al., 2021; Van Houtven & Norton, 2004) so the costs of reductions in family care to the health care system could also be large.

BACKGROUND

Earned Income Tax Credit (EITC)

The EITC was implemented in 1975 as a temporary tax credit to offset payroll taxes for low-income families. The benefit has a trapezoidal structure, where the credit value increases with earnings up to a certain point, has a range of earnings over which the credit is constant, and then phases out as earnings increase further. In recent years, families with children with income up to about 225% of the federal poverty line were eligible for at least some EITC benefits.

There have been several federal expansions to the EITC over the last several decades. It was made permanent in 1978, indexed to inflation in 1988, expanded for families with multiple children in 1991, and expanded for families with three or more children in 2009 (Crandall-Hollick, 2022). In 2022, federal spending on the credit was about $64 billion, distributing an average benefit of $2,043 to 31 million families across the country (IRS, 2024).

In addition to the federal credit, several states have implemented their own EITCs, which are usually calculated as a fixed percentage of the federal benefit. States began implementing EITCs in the late 1980s and some states have implemented credits as recently as 2022. As of this writing, 30 states, the District of Columbia, and Puerto Rico had their own EITCs, representing a wide range of geographic regions and political leanings across the country. Since most states structure their credits as a fixed percentage of the federal benefit (ranging from 3 to over 100% of the federal benefit), EITC-eligible families residing in states with EITCs are also usually eligible for the state benefit, so any expansions to the federal benefit also impact state EITCs. Many states have also changed the value of their EITCs over time, many increasing the size of the benefit, but some have also reduced or eliminated their credits over time (e.g., North Carolina implemented a state EITC in 2007, but eliminated it in 2014).

Using changes to the federal and state rules over time, we illustrate how average EITC benefits have changed between 1990 and 2014 in Appendix Figure B1. Over this time period, the average benefit for unmarried women with children ranged from about $500 in 1990 to nearly $3,000 in 2014 in states with the most generous EITCs. Much of the increase in benefits stems from the large federal expansions to the EITC in the mid-1990s, but there is also substantial variation generated by states implementing and changing their EITC benefits over time. We

leverage this variation to examine how exogenous changes to EITC benefit generosity impact caregiving for parents.

Intergenerational Transfers and the EITC

The EITC has several features that have the potential to affect the care that adult children provide their parents. First, the EITC may affect caregiving through its impact on employment of adult children. A long line of research on the EITC finds that expansions increased the employment of unmarried mothers (e.g., Eissa & Liebman, 1996; Hoynes & Patel, 2018; Meyer & Rosenbaum, 2001; Schanzenbach & Strain, 2021). Increases in labor supply have been found to reduce unpaid caregiving for adults (Carrino et al., 2023; Carmichael et al., 2010; He & McHenry, 2016; Michaud et al., 2010). In recent work, Carrino et al. (2023) examine policy-induced changes in labor supply as a result of changes in the UK early retirement age and find that for women in their 60s, an increase in work of 10 hours per week reduced caregiving for parents by 2 hours per week.

The EITC may also affect caregiving through its impact on income. Since the EITC increases income, both through the benefit itself, and through its impact on employment, this may also reduce the care EITC recipients provide to their parents as the opportunity cost of their time increases. Indeed, previous work indicates that children with higher wages provide less time help to parents (Carmichael et al. 2010; Couch et al., 1999; Mommaerts & Truskinovsky, 2020). We may therefore expect to find a decrease in time transfers to parents if the relationship between income and time help is causal.

Increased income from the EITC could also lead adult children to substitute money transfers for time transfers to their parents (Couch et al., 1999; Wang, 2022). Upward financial transfers from adult children to parents are uncommon but increase with parent's age (Wiemers

& Park, 2021) so any effects of the EITC on upward financial transfers are likely to be experienced by older parents. Increases in income may also change time spent caregiving if income elasticities differ across activities (Bastian & Lochner, 2022; Wiersma Strauss, 2024).

The EITC may also affect caregiving through its impact on living arrangements. Pilkauskas and Michelmore (2019) find that the EITC reduces multigenerational co-residence for unmarried mothers. If recipients leverage EITC benefits to live independently, we might expect further reductions in care, as care is associated with both geographic proximity and coresidence (Crimmins & Ingegneri, 1990; Soldo et al., 1990).

Finally, any reduction in caregiving by EITC recipients could be compensated for by other caregivers. While the primary EITC recipient population – unmarried mothers - play a central role in caregiving (Burch et al., 2019; Coward & Dwyer, 1990; Fahle & McGarry, 2018; Fuller-Thomson & Minkler, 2001; Laditka & Laditka, 2000; Perry-Jenkins & Gerstel, 2020; Spitze & Logan, 1990), other adult children may step in to provide more care to compensate for any decrease in care that unmarried daughters provide their parents (Checkovich & Stern, 2002; Lin & Wolf, 2020; Pezzin et al., 2015). Increases in EITC generosity may also increase the use of paid care as a substitute for family caregiving. However, paid care often entails high out-of-pocket costs that may serve as a barrier (Arora & Wolf, 2018; Reinhard et al., 2019; Wang, 2022), and a majority of older adults prefer to "age in place" or be cared for in their own homes, and thus may be resistant to certain paid care options (Kasper et al., 2019).

To date, there are only a few papers that empirically examine the relationship between the EITC and time spent caring for family members. Most of these studies (Bastian & Lochner, 2022; Michelmore et al., 2024; Michelmore & Pilkauskas, 2021) focus on childcare; for example, Bastian and Lochner (2022) find that increased EITC generosity reduced time that

unmarried mothers spent with their children but did not decrease time spent on investment-related activities like reading or playing.

The only empirical evidence of the EITC's effects on caregiving for adults comes from Wiersma Strauss (2024) who uses 24-hour time diary data from the American Time Use Survey (ATUS) to show that though the EITC increased the time younger unmarried mothers spent working, it did not reduce time spent assisting adults, and this time even increased in response to EITC generosity for older (45-54-years-old) unmarried mothers. Wiersma Strauss' data and approach allows her to comprehensively assess how less educated unmarried mothers trade off among different forms of time use, including caregiving for adults, in response to increases in EITC benefit generosity. The results imply that an increase in labor supply does not necessarily lead to a reduction in time spent caring for parents, as it is possible that labor supply increases are offset by time spent in other time use categories (e.g., leisure, home production, childcare, sleep), and also point to the importance of looking at heterogeneity by age when assessing caregiving outcomes.

This paper builds on the previous work in two important ways. First, we take as the object of interest the care that parents receive rather than the care that EITC eligible adult children give. This change in perspective allows us to examine the care received by parents who have care needs which is a particularly policy relevant population for considering the crowding out effects of the EITC on caregiving. Second, the rich caregiving data in the HRS allows us to examine whether any care reductions resulting from increased EITC generosity are compensated for by additional hours of care from other adult children or paid care and to estimate the cost of replacing the total hours of care lost due to an increase in EITC generosity. Understanding gaps in total care to parents with care needs as a result of increased EITC generosity is an important

policy contribution of this work. Finally, the HRS data allows us to include in our analysis the large expansions of the EITC during the 1990s which is not possible using the ATUS sample, which begins in 2003. This is important empirically as it allows us to estimate models using only federal variation in EITC benefits that mitigate concerns about staggered treatment effects and because we can include the period of the 1990s where the labor supply effects of the EITC were larger than in more recent years.

DATA AND MEASURES

Data came from the Health and Retirement Study (HRS), a nationally representative survey of noninstitutionalized individuals ages 51 and older in the United States which is sponsored by the National Institute on Aging and conducted by the University of Michigan. The HRS started in 1992 with a cohort of individuals aged 51-61; since then, additional cohorts have been continuously added to maintain a representative sample of the U.S. population aged 51 and older.[2] Surveys are conducted biennially and, in each wave, the HRS asks respondents to report characteristics of each of their children including employment status, educational attainment, marital status, and number of children. The HRS also includes information about the help that respondents (parents) receive from each of their children with chores and for activity and functional limitations and about financial transfers that respondents give to and receive from each of their children. We use cleaned and harmonized data on respondent-adult child dyads provided by RAND in the Family File data, covering the 1992-2014 period (RAND HRS, 2018).[3] We also use restricted geographic data on the state of residence of HRS respondents covering the period 1992-2014 and the state of residence of each adult child available from 2004 onwards (HRS, 2021a, 2021b). Though the HRS has some drawbacks that we will discuss below,

[2] See https://hrs.isr.umich.edu/documentation/survey-design#accrual-diagram for more information.
[3] Additional summary data is provided that contains information about all children of an HRS respondent.

it is the only dataset in the U.S. that includes information on the time help that adult children give to their parents that was in the field regularly during the period when there were large federal expansions to the EITC as well as substantial state variation in generosity.

Analytic Sample

In our main analysis, we link each HRS respondent to their adult children. We restrict the sample to dyads in which the child of the HRS respondent is female, unmarried, has least one child, and has fewer than 16 years of schooling. These restrictions focus our analysis on the children of HRS respondents most likely to benefit from the EITC and are conventional restrictions from the EITC literature. We refer to these children as unmarried daughters.

We further limit the sample to dyads in which the unmarried daughters are aged 25-39 for reasons of population representativeness. We exclude unmarried daughters younger than 25 years old because many of these women do not have a parent who is old enough to be eligible for inclusion in the HRS. Based on analysis we conducted using the Panel Study of Income Dynamics (PSID), the leading U.S. dataset on intergenerational ties, more than half of individuals younger than 25 do not have at least one parent 51 years old (the age limit for the HRS sampling frame). Adult daughters aged 40 and older are excluded because the HRS does not contain information on the age of grandchildren (i.e., the children of these unmarried daughters) and women over 40 are substantially more likely to have at least one child over the age of 18. This poses challenges for our analysis because EITC eligibility is based on the number of children aged 18 or younger living in the home. Since we cannot observe the ages of the grandchildren of HRS respondents, we opted to restrict our sample to an age range of adult daughters who were most likely to have all their children aged 18 or younger (see Appendix A for more details on these age exclusions). In what follows, we show that unmarried daughters in

this sample are broadly comparable to a similarly defined sample drawn from the Current Population Survey's Annual Social and Economic Supplement (CPS ASEC).

We make additional restrictions among HRS respondents to ensure that the sample does not include any HRS respondent who may themselves be eligible for the EITC. We drop all dyads linked to any HRS respondent who has a child under age 19, or a child under age 24 who is reported as attending school, since both can be claimed as qualifying children for EITC purposes. We aggregate the respondent-adult child dyad information up to the HRS respondent household level[4] to form our final sample of parent household–unmarried daughter dyads from 1992-2014 (N=13,686). We use this sample to examine our main research question of whether EITC generosity reduces the care parents receive from their EITC eligible daughters, as well as whether financial transfers from EITC eligible daughters compensate for any reductions in care.

To examine the additional possible compensating effects of upward transfers from all adult children and use of paid help for functional limitations, we aggregate the parent household–unmarried daughter dyads (N=13,686) up to the parent household level with one observation per parent household in each year linked to all of their children including both EITC- and non-EITC-eligible children (N=10,923). Multiple dyads linked to an HRS respondent household during a survey year exist if a parent household has multiple unmarried daughters, as is the case for 27% of the parent household-unmarried daughter dyads in our sample.

[4] The HRS employs an interview structure that helps to ensure alignment for couple responses to the HRS Questionnaire. Each member of the couple is a respondent but couples choose a "family respondent" and a "financial respondent" (one member of the couple can take on both roles if desired). Based on this choice, the member of the couple is asked finance and/or family-related questions related to both members of the couple (e.g., "did either you or your spouse/partner...?"), including providing information about the couple's children. The answers provided are assigned to both members of the couple. However, for some of our outcome measures (chore help and anything related to ADL, IADL or money-management help, see next "Measures" section for details) respondents are asked separately. In these cases, we aggregated these responses at the HRS respondent household level so that binary indicators take on a value of 1 if either member of the HRS respondent couple reports receiving this type of help from the unmarried daughter.

Measures

The HRS includes measures of chore help and care help related to functional limitations. To measure chore help, we created a binary indicator for whether the respondent(s) reported receiving any help with household chores, errands, or transportation from the unmarried daughter over the past two years (since the last HRS interview). This measure is available between 1996 and 2002 and the help may be unrelated to need (e.g., due to memory or health conditions; see Appendix C for the exact question wording from the HRS Questionnaire for this and all other outcome measures).

To measure care help related to functional limitations, we created three separate binary indicators for whether the respondent(s) reported receiving any help from the unmarried daughter with activities of daily living (ADLs) such as dressing and bathing, instrumental activities of daily living (IADLs) such as meal preparation and shopping, or money management tasks such as paying bills.[5] To mimic the structure of the questionnaire, we condition upward time transfers for ADL, IADL, and money management tasks on the need for help; the indicators take on a value of 0 if the respondent(s) report needing help with the task but do not receive help from the unmarried daughter and 1 if they report needing help and receiving it from the unmarried daughter.[6] We also look at corresponding binary measures of whether the unmarried daughter is listed as a primary or secondary helper for these kind of tasks (we create separate primary and secondary helper indicators for ADL and IADL tasks, respectively; see Appendix C for more

[5] ADL tasks asked about within the HRS are dressing, walking, bathing/showering, eating, getting in or out of bed, and using the toilet. IADL tasks asked about are preparing a hot meal, shopping for groceries, making phone calls, and taking medications. Examples of money-management related tasks provided to survey respondents during their interview are paying bills and keeping track of expenses. See Appendix C for the exact question wording from the HRS Questionnaire for these and all other outcome measures.

[6] To address any concern that conditioning on need in this way is endogenous to changes in EITC generosity, we examined whether a $500 increase in average EITC benefit generosity (see "Empirical Strategy" section) is associated with increases in HRS respondents reporting that they need ADL, IADL, or money management help (three separation regressions) and found no statistically significant association [results available upon request].

information). Finally, we examine a continuous measure of the total hours of help with ADL, IADL, and money management tasks over the past month that the HRS respondent(s) report receiving from the unmarried daughter.[7] These ADL/IADL/money management-related measures are available from 1996 onwards (see Appendix C for more information).

To assess whether any changes in unmarried daughters' upward time transfers are potentially due to changes in proximity to one's parents, we created binary indicators for whether the HRS respondent parent(s) lives within 10 miles of the unmarried daughter, including those who are co-resident. We also examine a separate binary indicator for co-residence between the HRS respondent(s) and their unmarried daughter. These measures are available for all survey years (1992-2014; see Appendix C for more information).

To examine possible compensating effects for any changes in unmarried daughters' upward time transfers, we look at financial transfers received from unmarried daughters, time help from all adult children, and use of paid help for functional limitations. We measure financial transfers from unmarried daughters using a binary indicator for whether the HRS respondent(s) report receiving more than $500 over the past 2 years (since the last HRS interview).[8] We also examine the continuous measure of the amount given (CPI-adjusted to real 2014 dollars). These measures are available for all survey years except 1992 (see Appendix C for more information).

To examine time help received by our sample of HRS respondents from all of their adult children, we alter our binary measures of financial transfers, chore help, and help with functional limitations to equal one if *any* adult child of the HRS respondent(s) provided this help. We alter

[7] For coupled HRS respondent households, we construct the continuous measure of hours as the sum of hours of help provided in the past month by the unmarried daughter for both parents.
[8] This is how the HRS question is worded; we cannot observe whether unmarried daughters provided financial transfers of less than $500 over the past 2 years. See Appendix C for the exact question wording from the HRS Questionnaire for this and all other outcome measures.

our continuous measures of total monthly hours of functional limitations help and the amount of financial transfers by summing the hours and money that the HRS respondent(s) report receiving from *all* their adult children.

Finally, to examine use of paid help for functional limitations, we make use of data from the HRS Core survey, where each respondent that reports receiving any help with functional limitations must then specify their relationship(s) to those that help them. We consider "paid helpers" to be those specified as "organizations", "employees of institutions", "paid helpers", or "professionals". These measures are available from 2002 onwards. For the 1996, 1998, and 2000 HRS surveys, a binary indicator is available for each specified helper that states whether they were paid.[9] From these measures, we create two binary measures of paid help conditioned on need: if the paid helper is associated with ADL (IADL) help, then the HRS respondent household is coded as receiving paid ADL (IADL) help (see Appendix C for more information).

DESCRIPTIVE STATISTICS

Descriptive statistics for our sample of unmarried daughters are provided in Panel A of Table 1. The unmarried daughters in our sample are on average 33 years old. The sample is quite evenly split between those with 1, 2, or 3 or more children. About one-in-five (17%) did not complete high school, half (51%) have a high school diploma, and nearly one-third (32%) have some college experience. Panel A of Table 1 also shows characteristics of a comparable nationally representative sample of unmarried mothers without a college degree aged 25-39 in the Current Population Survey's Annual Social and Economic Supplement (CPS ASEC) over the

[9] See Appendix Table D1 for a sensitivity analysis that only uses the sample from 2002 onwards to examine paid help, due to this change from the 1996-2000 period in how paid helpers were asked about and identified within the HRS survey.

same time period.[10] Overall, the two samples of unmarried women are similar. However, there are differences in the race-ethnic composition of the samples, with fewer Black (27% vs. 32%) and Hispanic (11% vs. 18%) unmarried mothers in the HRS sample than in the CPS ASEC.[11] These differences come from the fact that the HRS is nationally representative of adults age 51+ and older age groups have a higher percentage of White individuals than younger age groups. Racial-ethnic differences in mortality and residential location may also explain some of the racial differences between our HRS sample and the CPS, if, for example, White, unmarried daughters aged 25-39 are more likely to have parents that reside in the U.S. and are more likely to have a living parent, relative to Black and Hispanic women. Even so, this comparison suggests that our HRS-based sample of unmarried daughters is nationally representative of less-educated unmarried women aged 25-39 with children who have a parent aged 51 and older who is living in the United States.

The parents in our sample (HRS respondents; see Table 1, Panel B) are about 60 years old and have about 4.5 children on average, and 56% are married or partnered. Nearly 60% of the sample is non-Hispanic white. HRS respondent self-reports of "fair" or "poor" health (as opposed to "good", "very good" or "excellent") are quite common, with 46% reporting this for either themselves or any spouse/co-resident partner. In addition, while most of these parents do not require ADL, IADL, or money management help, these needs are not trivial: about 23%, 16%, and 7% report needing each of these types of help, respectively. In comparison to the full

[10] See Appendix Table A1 for an additional comparison to the 2013 PSID Rosters and Transfers Module. Using this data source, we can condition the comparison sample (of unmarried 25–39-year-old mothers without a college degree) on those that have at least one parent age 51 or older, in alignment with the HRS sampling frame. This additional comparison shows very similar differences between samples.

[11] Race-ethnicity is not reported for the children of HRS respondents. To assign race-ethnicity to the children, we aggregate information on parental race-ethnicity for each child. This means that, if more than one biological parent is linked to an adult child within the RAND Family File, we aggregated the race-ethnicity information for both parents. The corresponding adult child is coded as "more than one race-ethnicity" if their parents do not fall into the same race-ethnic category (either White Non-Hispanic, Black Non-Hispanic, Other Non-Hispanic, or Hispanic).

HRS sample of parents of children between the ages of 25 and 39 (see the second column of Table 1, Panel B), the parents of our sample of unmarried daughters are more likely to be Black, have more children, and are more likely to report fair or poor health or needing help with a functional limitation. They are also less likely to be married or partnered themselves. In short, the sample of HRS respondents with unmarried daughters is more disadvantaged, on average, than HRS respondents with children age 25-39 overall. This pattern is as expected, as the population of unmarried daughters is more disadvantaged than the population of adult children overall.

Table 2 summarizes all the outcome measures used in our models for both our sample of parent household - unmarried daughter dyads (Panel A), and our sample of parent households (Panel B). Given prior evidence on differences in care needs and the prevalence of upward transfers by parental age, we split both samples by the age of the HRS respondent to examine heterogeneity by parent age.

Beginning with the parent household – unmarried daughter dyads (Table 2, Panel A), time transfers are common, with 27% of parent households receiving help with household chores, errands, or transportation help from their unmarried daughter. Among parents with functional limitations, 8% receive ADL care from their unmarried daughter; this increases to 17% and 10% for IADLs and money management, respectively. In about two-thirds of cases, the unmarried daughter is also identified as the parent's primary helper for these needs. Overall, parents with care needs receive about 9 hours over the past month from their unmarried daughter; and among those who receive some care, they receive an average of 79 hours, or about 3 full days a month (not reported). As expected, older parents are more likely to receive help with functional limitations from their unmarried daughter and receive more hours of time than

younger parents. Financial transfers to parents are a relatively rare phenomenon: only 3% of parents received $500 or more from their unmarried daughter during the past two years. Somewhat surprisingly, older parents (65 years old and above) are not more likely to receive financial transfers than younger parents. Finally, living close to one another is common, regardless of parental age, with over half of the sample of unmarried daughters living within 10 miles and 14% co-residing with their parent(s).

When we aggregate help from all adult children and consider time and financial help at the parent household level (Table 2, Panel B), the prevalence of receiving upward time transfers increases. In particular, the proportion of parent households receiving help with ADLs and IADLs doubles, while the proportion receiving money management help triples. Average total monthly hours of help with functional limitations and the proportion receiving a financial transfer more than double. Once again, older (65+) parents are more likely to receive each type of time help and receive more hours of help with functional limitations. The use of paid help is rare, with less than 4% of parent households paying for ADL help and less than 5% paying for IADL help (Table 2, Panel B). While use of paid help is twice as high for older parents relative to the younger parents, the use of paid help for ADL and IADL needs remains below 7%.

EMPIRICAL STRATEGY

To estimate the relationship between the EITC and caregiving, we employ a parameterized difference-in-differences strategy. Rather than relying on an individual's own eligibility for the EITC, which is endogenous to private transfers, we take advantage of the rich federal and state variation in the EITC over time to simulate changes in generosity over time.

To construct the simulated EITC, we use a sample of unmarried mothers aged 25-39 with fewer than 16 years of schooling from the Current Population Survey Annual Social and

Economic Supplement (CPS ASEC) in 1990. To estimate tax liability in each of the tax years of interest (1991 through 2014), we use the Consumer Price Index (CPI) to inflate earnings in the 1990 CPS ASEC to their nominal value in each year. Using NBER's TAXSIM,[12] we calculate what federal income tax liability, including estimated federal EITC benefits, would be for each year based on this sample of households in 1990. We fix the sample and income distribution in 1990 to ensure that any changes in EITC generosity are due to changes in the policy, not changes in the income distribution or changes in choices about marriage or fertility. We then compute state EITC benefits using the national sample and each state's EITC laws in each year. Using a national sample to calculate state EITC generosity, rather than the residents of each individual state, reduces concerns of endogeneity of state demographic characteristics to state EITC benefits. We might worry, for instance, that states with a higher concentration of unmarried mothers might have more generous EITCs than states with lower concentrations of unmarried mothers.

We then collapse the data to the state-year-family size level and match to our HRS sample of unmarried daughters. For each individual in our sample, this provides us with a measure of the average federal and state EITC a family can expect to receive, given the number of children living in the household (1, 2, or 3 or more), the state, and the year.

We then estimate the relationship between the EITC and care using models of the following form:

$$Y_{isct} = \beta_0 + \beta_1 EITC_{sct} + \beta_2 X_{isct} + \beta_3 Z_{isct} + \beta_4 \alpha_{st} + \delta_s + \gamma_t + \theta_c + \varepsilon_{isct} \quad (1)$$

where Y_{isct} represents the transfer outcome received from unmarried daughter *i,* living in state *s,* with number of children *c*, in year *t*. We model this as a function of EITC generosity, $EITC_{sct}$,

[12] See https://taxsim.nber.org/ for more information.

which represents the one or two-year-lagged average benefit for an unmarried daughter residing in state *s,* with number of children *c,* at time *t*.[13] The coefficient of interest, β_1, represents how a $500 increase in the average EITC benefit impacts the outcome of interest. This corresponds to about a one standard deviation change for our sample (see Table 1, Panel A).

X_{isct} and Z_{isct} are vectors of demographic characteristics of the unmarried daughters and their parents (HRS respondents), respectively. X_{isct} includes age, age-squared, age-cubed, education (binary indicators for did not graduate high school, high school graduate, and some college), and race-ethnicity. $Z_{isct}$is a similar vector of controls at the HRS respondent household level and includes average age, age-squared, and age-cubed; a binary indicator for whether the respondent is 65 or older;[14] sex, HRS cohort, self-reported health status, number of children, and whether married/partnered. We also include a control for whether the child in the dyad is a stepchild.[15] α_{st} represent state-year level controls, including the state unemployment rate, the maximum welfare benefit for a family of three, the state minimum wage, state GDP, and a state-specific linear time trend.[16] These state-year contextual variables control for conditions that may be correlated with implementation and expansions of the federal and state EITCs, and may also be correlated with family care. The state-specific time trends control for further unaccounted-for policies or conditions that vary by state over time.

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[13] Our outcomes of interest are measured over differing timeframes. For contemporaneous outcomes (question refers to the present day or past month), we lag $EITC_{sct}$ by one year. This estimates how one responds to the credit amount received during the survey year, since EITC benefits are received during tax time following a tax year (e.g., 2013 EITC benefits are received during early 2014). For longer-term outcomes (question refers to the past two years or time since last HRS interview), we lag $EITC_{sct}$ by two years. This means that, for example, a 2014 respondent will report on an outcome between 2012-2014, and we examine how that responds to their 2012 (simulated) benefits, which they would have received during the tax time months of early 2013.

[14] In the case of a coupled HRS Respondent household, this indicator only takes on a value of 1 if both members of the couple are age 65 or older.

[15] In the case of a coupled HRS Respondent household, this variable takes on a value of one if the unmarried daughter is a stepchild of either HRS respondent.

[16] Data on state-year contextual variables come from the University of Kentucky's Center for Poverty Research's National Welfare Data: http://ukcpr.org/resources/national-welfare-data.

State fixed effects (δ_s) control for state-level characteristics that may produce different levels of care and also correlate with state policy generosity.[17] Year fixed effects (γ_t) control for national events, such as recessions, that may be correlated with both benefit generosity and care. Number-of-child fixed effects (θ_c) control for any fixed differences in caregiving patterns according to the number of children in the household.

With state, year, and number-of-child fixed effects in the model, variation in the EITC is driven by the interaction of these three sources of variation. For instance, comparing transfers received from unmarried daughters with the same number of children, living in the same state, in different years; comparing transfers received from unmarried daughters living in the same state, in the same year, with different numbers of children; or comparing transfers received from unmarried daughters with the same number of children in the same year, where one lives in a state that has an EITC, and another lives in a state with a more or less generous state benefit.

The final error term is clustered at the state level and assumed to be independent of $EITC_{sct}$, conditional on controlling for X_{isct}, Z_{isct}, α_{st}, and the fixed effects. Since our identifying variation comes from state and federal policy changes over time that vary by household size, we assume that there were no other policies or events that occurred at the same time that states implemented or expanded their EITCs, or at the same time as the federal expansions, that disproportionately affected larger households. Controlling for state, year, and number of child fixed effects in our analysis, any threat to identification must occur at the intersection of these

[17] Because we only observe state of residence for the adult children beginning with the 2004 survey, we impute state of residence prior to 2004 using a combination of the state of the HRS respondent in cases where the adult child lives within 10 miles of their parent, and data from survey waves in which the state of residence for the adult child was explicitly coded. See Appendix B for a more detailed discussion of this imputation process. Appendix Table B1 also displays results for two alternative specifications, the first of which relies on only federal-level variation in EITC generosity, and the second of which limits imputation of state of residence to within one survey wave (two years), demonstrating that our results are robust to this imputation process. See Appendix Table B1 notes for details.

fixed effects (state-by-year, number-of-children-by-year, or number-of-children-by-state). We consider various specifications to test the sensitivity of our results to these assumptions, which we describe in more detail in the robustness checks section.

When examining outcomes at the parent household level (e.g., whether the parent receives time or financial help from any adult child, use of paid care), we estimate Equation (2) in which we aggregate outcomes (Y_{jsct}) and $EITC_{sct}$ as follows:

$$Y_{jsct} = \beta_0 + \beta_1 EITC\_R_{sct} + \beta_2 Z_{jsct} + \beta_3 \alpha_{st} + \delta_s + \gamma_t + \theta_c + \varepsilon_{jsct}. \quad (2)$$

We modify Y_{jsct} to represent the care help received by parent household j from all of their adult children. We also aggregate EITC generosity. If a respondent has multiple unmarried daughters and is thus linked to multiple parent household-unmarried daughter dyads during the same survey year, we sum the value of $EITC_{sct}$ across daughters (dyads) to create $EITC\_R_{sct.}$ Using the summed value allows us to capture that parent households with multiple unmarried daughters are more exposed to EITC benefits. We drop the vector of unmarried daughter demographic characteristics (X_{isct}) and modify the vector of HRS respondent demographic characteristics (Z_{jsct}) to add controls for the number of unmarried daughters (as previously defined for our main analysis), the maximum number of grandchildren that a respondent's unmarried daughter has for EITC purposes (1, 2, or 3+), whether the respondent has a child that is a college graduate, the age of the respondent's oldest child, and the respondent's total number of grandchildren (see Appendix Table D2 for summary statistics for these control variables). δ_s and α_{st} use the state of residence of the HRS respondent household.

RESULTS

Care from Unmarried Daughters of HRS Respondents

Table 3, Panel A shows the results for Equation (1), which examines the relationship between EITC generosity and family caregiving. For the overall sample in the first row, we do not find evidence that the EITC impacts whether parents receive help from their unmarried daughters with chores, ADL help, IADL help, or money management, though all coefficients are negatively signed. However, our results suggest that greater EITC generosity reduces the likelihood that unmarried daughters are the primary IADL helper for their parents by about eight percentage points and increases the likelihood that they are instead secondary IADL helpers by a similar magnitude.

When we split the sample by parental age, we find evidence that the EITC leads to reductions in care help from unmarried daughters to parents aged 65 and older, with little change in help received by younger parents. For parents age 65+, a $500 increase in average EITC benefits reduces the likelihood of receiving chore help from their unmarried daughter by nearly 9 percentage points and reduces the total monthly hours of help received for functional limitations by about 24 hours. We also see that the effect of EITC generosity on being a primary vs. secondary IADL helper is driven entirely by older parents. For this group, a $500 increase in EITC generosity reduces the likelihood of their unmarried daughter being a primary IADL helper by 17 percentage points with a commensurate increase in the probability of being a secondary IADL helper. All these reductions represent sizeable declines relative to the dependent variable means shown in Table 1, Panel A. Overall, these results show that an increase in EITC generosity decreases care from unmarried daughters to the oldest parents in our sample. These are the parents with the most need for help. Though not shown in Table 1, 28% of parents age 65+ report needing help with ADLs, 21% report needing help with IADLs and 10% report needing help with money management.

Co-residence and Proximity

One possible mechanism through which the EITC may reduce family care is through its effects on co-residence with and proximity to parents. Table 3, Panel B examines the effect of EITC generosity on co-residence and living arrangements for our sample of parent household - unmarried daughter dyads. In the sample overall (first row), we find no statistically significant relationship between EITC generosity and proximity between parents and their unmarried daughters, though our point estimates are suggestive of a decline (2.4 percentage points) in the likelihood of living within 10 miles of parents. The pattern looks a bit different when we split the sample according to parental age. For parents younger than 65, we find a statistically insignificant, 2.5 percentage point decline in the likelihood of living within 10 miles of their unmarried daughter and no change in the likelihood of co-residing, which is consistent with our overall effects. For parents aged 65 or older, on the other hand, we find suggestive evidence of a shift away from co-residence between parents and their unmarried daughter and towards living within 10 miles, but not co-residing. Parents aged 65 or older are about 3 percentage points (not statistically significant) more likely to live within 10 miles of their unmarried daughter and 3 percentage points (not statistically significant) less likely to co-reside with their unmarried daughter in response to a $500 increase in EITC generosity. If the EITC does induce some unmarried daughters with older parents to move out of their parents' homes, this may partially explain why we find reductions in hours spent helping older parents. This may be particularly true for IADL help, which includes tasks like going grocery shopping and preparing hot meals, and could potentially explain why unmarried daughters are less likely to be primary IADL helpers when the EITC is more generous.

Compensating Effects

Thus far, our findings suggest that increases in EITC generosity decrease the care that parents receive from their unmarried daughters and that this is especially true for older parents. This unintended consequence of the EITC might be concerning if the gap in care to parents is not accompanied by increases in financial transfers, care from another adult child, or paid care.

Table 4 shows the effect of EITC generosity on financial transfers from unmarried daughters to their parents. Overall, we do not find any evidence that the EITC increases financial transfers to parents. In fact, when we split the sample according to whether the parent is aged 65 or older, we find evidence that a $500 increase in average EITC benefits *reduces* the likelihood of providing any financial transfers to parents aged 65 or older by 1.6 percentage points. Since upward financial transfers are quite uncommon, this represents a large drop in the prevalence of financial transfers in percentage terms. However, we find no statistically significant decline in the amount of transfers that unmarried daughters provide their parents, so these effects may be driven by those who were not providing substantial transfers to their parents. There may be some concern that the real value of the nominal $500 threshold for reporting transfers presents a problem for our results, however, because EITC generosity is increasing over time and the real value of the $500 threshold is decreasing, this should bias our estimates upwards – i.e. in favor of finding an increase in transfers. Instead, we find the opposite.

While we observe a large decline in monthly hours of functional limitations help parents receive from their unmarried daughters, this may not be consequential for parents' care needs if their other adult children step in to fill the gap. To investigate this question, Table 5 shows the results from estimating Equation (2) where we examine the time help provided by all adult children of the HRS respondents in our sample. We find that there are no longer statistically significant reductions in the likelihood of receiving chore help for older (65+) parents, which suggests that

other adult children may step in to provide this help. However, the results suggest that other adult children do not step in to help fill the gap in care for functional limitations for older parents left by unmarried EITC-eligible daughters. For parents aged 65 and older, we find sharp, negative, statistically significant reductions in the probability of having an adult child as a primary IADL helper (about 16 percentage points), and in total monthly hours of functional limitations help received (about 24 hours). In addition, older parents are about 13 percentage points less likely to have *any* of their adult children as an IADL helper. This indicates that other children do not step in to help fill the gap in care help even if they do in chore help (which may be unrelated to functional limitations). We also do not find any evidence that upward financial transfers increase – on either the extensive or intensive margins – when looking at transfers from all adult children (see Appendix Table D3).

Finally, since neither upward financial transfers nor care from other adult children have been found to fill the care gap for older parents left by increases in EITC generosity, we examine whether use of paid care increases to compensate for the loss in care help from adult children (see Table 6). For the overall sample, a $500 increase in average EITC benefits is associated with a statistically significant 2.1 percentage point decline in the likelihood of receiving paid ADL help, and no change in the likelihood of receiving paid IADL help. This decrease in the likelihood of receiving paid ADL help is driven by older (65+) parents. While older parents are estimated to *increase* their use of paid help for IADLs, this result is of a magnitude (7.2 percentage points) that would still leave a sizeable care gap, given that they are 13.1 percentage points less likely to have any of their adult children as an IADL helper (see Table 5). We conclude that while paid care appears to fill some of the care gap generated by the EITC, older parents of EITC-eligible daughters still receive less care overall from their adult children in response to increases in the

EITC. Paid care also does not appear to be financed through transfers of money from adult children to their parents.

ROBUSTNESS CHECKS

We test the robustness of our results in various ways. Appendix Table D4 shows that our results are not sensitive to empirical specification by testing three alternative specifications: (1) removing the state linear time trends and using only state and year fixed effects and state-year level controls (Columns 1 and 2); (2) adding a quadratic state time trend (Column 4); and (3) replacing the state fixed effects, year fixed effects, state time trends, and state-year contextual variables with state by year fixed effects, thus limiting our identifying variation to within state and year changes in average EITC generosity across different family sizes (Column 5).[18] We show these results alongside our preferred specification (Column 3). The results are highly consistent with our main specification across all outcomes. Additionally, in Appendix Table D5, we re-estimate the effect of average EITC benefit generosity on the total monthly hours of functional limitations help received by HRS respondents (parents) from their unmarried daughters using Poisson pseudo-likelihood regression ("ppmlhdfe" command in Stata). This non-linear count model serves as a check on the OLS results since this outcome has a substantial proportion of respondents that report zero hours of care; the results are consistent with our main OLS specification.

Second, in Appendix Table D6, we consider two more substantive issues including threats to identification and changes in the source of variation that we use. First, we include a set of

[18] Following Bastian & Lochner (2022), this more stringent specification leverages four distinct sources of variation: 1) differences in state EITC rates imply larger differences in $AvgEITC_{sct}$ between families of different sizes in states with higher EITC rates; 2) an increase in any state's EITC rate generates a larger change in $AvgEITC_{sct}$ benefits for families with more children (since state EITCs are proportional to the federal EITC); 3) The 2009 federal expansion increased $AvgEITC_{sct}$ for families (in all states) with 3+ children but not other families, while the 1994 and 1991 federal expansions differentially increased $AvgEITC_{sct}$ for those with one versus two or more children; 4) The 2009 (1993 and 1991) federal expansion raised $AvgEITC_{sct}$ more for families with 3+ (any) children in states with larger EITC rates.

controls for two other social policies that also varied over the timeframe of our analysis: the Child Tax Credit (CTC) and Temporary Assistance for Needy Families (TANF). The CTC was introduced in 1998 as a modest $400 (per child under age 17) non-refundable tax credit. Since its introduction, it has been expanded on various occasions, providing $1000 (per child under age 17) in refundable benefits by 2014 when our sample period ends. To control for changing CTC generosity, we first simulate CTC benefit generosity using the 1990 CPS ASEC in a similar manner as that used to create our $AvgEITC_{sct}$ treatment variable (see "Empirical Strategy" section for details), with variation driven only by number of children (0-8) and year observed, since the CTC is primarily a federal-level policy.

We additionally control for TANF generosity because of concerns about the conflation of effects of the EITC with effects from the change from AFDC to TANF in the mid-1990s (Kleven, 2019; Schanzenbach & Strain, 2021). The EITC expansion in 1994 happened around the same time that the AFDC program was replaced by the TANF program, first through state waiver programs and then nationally in 1996. During this transition, work incentives were expanded by the EITC but restrictions were also placed on TANF participation for people with limited labor market attachment. Schanzenbach and Strain (2021) find that the 1994 EITC expansion increased employment independent of changes to state welfare policies. To control for AFDC/TANF benefits, we add controls at the state level for the post-welfare period and for the proportion of the state's poor that receive AFDC/TANF in each year. Column (2) of Appendix Table D6 shows our results when we add CTC and AFDC/TANF controls. Comparing our preferred specification in Column (1) to Column (2), we find that our results are not sensitive to the additional controls for CTC and AFDC/TANF policy suggesting that neither CTC expansions nor welfare reform in the 1990s are driving our main findings.

Second, there might be concerns about using a two-way fixed effects (TWFE) model in the context of staggered rollout of state EITCs (e.g., Goodman-Bacon, 2021), since states adopt EITCs at different points in time, and early-adopters might be quite different from late-adopters. The challenge in the EITC context is that we also have variation in the dosage of the treatment variable, which changes over time within states and, since the EITC has been in place since 1975, we have no untreated observations. Recent alternatives to the TWFE design have not yet incorporated these two challenges. Instead, in Column (3) of Appendix Table D6, we show a specification where these issues are less likely to be relevant. In this specification we rely only on variation in federal EITC generosity where federal expansions took place in 1991, 1994, and 2009. For certain outcome measures (all those related to help with functional limitations), treatment is then not at all staggered.[19] In this case the model identifies the "correct" comparison as long as the treatment effects per dollar do not vary across groups defined by the number of children (de Chaisemartin & D'Haultfoeuille, 2023). However, even in this case, an examination of "pre-trends" is not appropriate because the EITC had already been in place for nearly 20 years at the time of the federal expansions that we examine.

Nonetheless, we find that using only federal variation over the whole time period that we study does not affect our conclusions (Column 3 of Appendix Table D6). The point estimates are, if anything, larger than our preferred estimates. Thus, we do not find evidence that our results are sensitive to specifications that are less susceptible to the well-known problems with TWFE estimators, but we note that the solutions to the problem when treatment is staggered and non-

[19] Treatment is not staggered in these cases as the variables are only available within the HRS as of 1996 and these variables are asked about contemporaneously, so we use a one-year lagged measure of $EITC_{sct}$. See "Empirical Strategy" section for more information.

binary are considerably more complex than in the binary treatment case (de Chaisemartin & D'Haultfoeuille, 2023).

CONCLUSION

Our study examines how the competing demands of paid work and caregiving interact with one of the largest anti-poverty programs in the United States. A long line of research illustrates how the EITC increases maternal labor force participation and future earnings by both encouraging and subsidizing work. The fact that we find decreases in care that parents receive from their unmarried daughters is consistent with the EITC inducing single mothers to enter the labor force, thus potentially reducing the amount of time they have available to devote to parental care. Our results raise concerns about the well-being effects of this reduction in care, particularly for older parents, as we do not find fully compensating increases in financial transfers, time transfers from other adult children, or use of paid care. We thus conclude that these older parents receive less care from children overall in response to increased EITC benefit generosity.

While it is difficult to assess the total societal costs associated with the decline in care as a result of the EITC, we can provide a back-of-the-envelope calculation of the individual cost of replacing this lost time from children. In our analysis that included the care that HRS respondents received from all their adult children (Table 5), our findings suggested that a $500 increase in average EITC benefits led to a 24-hour decline in monthly hours of care that HRS respondents aged 65 and older with at least one functional limitation received from their adult children. Aggregating this loss in care to the annual level, this implies a close to 300-hour (288 hours) decline in annual hours of care that parents aged 65 and older with at least one functional limitation no longer receive from their adult children. Under a very conservative estimate that it would cost $10 per hour to hire someone to replace this loss of time, this suggests that a $500 increase in EITC

benefit generosity would yield a $2,880 annual increase in costs to older parents of lower income unmarried mothers. We use a relatively low hourly wage estimate since our results largely seem to be driven by declines in IADL help, which is generally cheaper to replace than ADL help. However, we note that even with this low estimate of the replacement cost of care, the cost of replacing care for parents is close to two times the average size of the EITC benefit for the unmarried daughters in our sample (see Table 1, Panel A).

Our study adds to the literature that finds that poor mothers face trade-offs between labor supply and provision of care and that policies that are designed to increase the labor supply of poor women have the unintended consequence of reducing the valuable care they provide to their parents. We find that the EITC creates a potential conflict between the earnings of the adult child generation and well-being of older generations through care received. This conflict is important to consider as policymakers increasingly tie different parts of the U.S. social safety net to recipients' labor supply, while also facing the challenges of an aging population and the prominent and rising role of healthcare costs in the national budget, both of which increase the need for family care. While the EITC has particularly strong work requirements and thus effects on employment, our study highlights the need to more widely consider these competing policy priorities including the value of family care. Future work could also use measures of well-being to better understand effects on health and well-being for care recipients.

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Table 1. Summary Statistics

Panel A. Parent Household -Unmarried Daughter Dyads

	HRS Sample		Sample Comparison with CPS ASEC 1992-2014 [b]	
Variable	Mean	SD	Mean	SD
Age	33.00	4.03	32.01	4.27
Birth Year	1971	7.84	1971	8.08
Education				
Did Not Graduate High School	17%		20%	
HS Graduate	51%		41%	
Some College	32%		39%	
Number of Children	1.95	0.81	1.87	0.79
1	36%		38%	
2	33%		36%	
3+	31%		26%	
Race-Ethnicity [a]				
Non-Hispanic White	58%		45%	
Non-Hispanic Black	27%		32%	
Hispanic	11%		18%	
Other	3%		4%	
More than one race-ethnicity	2%		-	
Average EITC Benefit Eligibility (lagged)	$1,614	454.72	$1,541	529.16
Federal	$1,547	401.46	$1,480	482.59
State	$67	148.54	$61	141.83
Observations	13,686			

Panel B. Parent Households

	HRS Sample		Sample Comparison with Full HRS [c]	
Variable	**Mean**	**SD**	**Mean**	**SD**
Sex				
Female Respondent	87%		89%	
Only Male Respondent	13%		11%	
Age	60.26	6.44	59.87	6.31
Age 65 or older (all*)	18%		16%	
Race-Ethnicity				
Non-Hispanic White	60%		74%	
Non-Hispanic Black	24%		12%	
Hispanic	11%		9%	
Other	3%		2%	
More than one race-ethnicity	2%		3%	
Number of Children	4.48	2.15	4.12	2.05
Stepchild	15%		14%	
Married/Partnered	56%		68%	
Fair or Poor Self-reported Health	46%		34%	
Functional Limitations				
Needs Help with ADL	23%		16%	
Needs Help with IADL	16%		11%	
Needs Help with Money Management	7%		5%	
Observations	10,923 [d]		160,694	

Source: HRS RAND Family File (1992-2014), HRS RAND Longitudinal File (1992-2020), Current Population Survey Annual Social and Economic Supplement (CPS ASEC) 1992-2014.

Notes: Both samples restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. Race-Ethnicity binary indicators provide our best guess of the race-ethnicity of each individual, based on aggregating HRS information on parental race-ethnicity for each unique child ID (see text, "Descriptive Statistics" section, for details). All Panel B measures, except for those denoted by "(all*)", are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent

is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. In the case that the HRS Respondent is married or partnered, measures denoted by "(all*)" only take on a value of 1 if applicable for both members of the couple. All dollars are real CPI-adjusted 2014 dollars. All means are weighted using the HRS household analysis weight, taken by RAND from the HRS Tracker file.

[a] Race-Ethnicity binary indicators provide our best guess of the race-ethnicity of each individual, based on aggregating HRS information on parental race-ethnicity for each unique child ID (see text, "Descriptive Statistics" section, for details)..

[b] CPS ASEC sample restricted to unmarried women with less than a Bachelor's degree with at least one child under the age of 19 residing in the household. Note that some college is defined as taking any college coursework, not necessarily attaining an Associate's degree.

[c] Instead of limiting to those parent household-adult child dyads that include an unmarried daughter aged 25-39 with less than 16 years of education and at least one child, this "full" comparison sample is comprised by limiting only to those dyads that include an adult child aged 25-39.

[d] The number of observations for the sample of HRS Respondents (Parents of Unmarried Daughters) is lower than for the sample of unmarried daughters, because some HRS Respondents have multiple unmarried daughters that fit our sample restrictions (see text, "Analytic Sample" section, for details).

Table 2. Summary Statistics – Transfer Outcomes
Panel A. Parent Household-Unmarried Daughter Dyads

	Full Sample (N=13,686)	**Average Age of HRS Respondent(s) <65 (N=10,976)**	**Average Age of HRS Respondent(s) 65+ (N=2,710)**	
Variable	Mean [SD]	Mean [SD]	Mean [SD]	Observations – Full Sample
Caregiving				
Chore help (0/1)	27%	27%	27%	4,779
ADL help (Primary helper) (0/1)	8% (5%)	8% (4%)	10% (7%)	3,023
ADL help (Primary helper) (0/1)	17% (11%)	17% (11%)	19% (11%)	2,166
Money management help (0/1)	10%	9%	12%	980
Total monthly hours, ADL/IADL/money management help	8.91 [52.91]	7.92 [50.23]	12.28 [61.05]	3,838
Proximity				
Live within 10 miles of parent(s), including co-resident	53%	53%	53%	13,591
Co-resident with parent(s)	14%	14%	14%	13,686
Financial				
Received more than $500 (0/1)	3%	3%	2%	12,453
Amount of money received	$64.81 [674.34]	$69.03 [707.20]	$48.89 [532.24]	12,453

Panel B. Parent Households

	Full Sample (N=10,923)	**Average Age of HRS Respondent(s) <65 (N=8,611)**	**Average Age of HRS Respondent(s) 65+ (N=2,312)**	
Variable	Mean [SD]	Mean [SD]	Mean [SD]	Observations – Full Sample
Caregiving				
Chore help from at least one adult child	44%	43%	48%	3,848
ADL help from at least one adult child (Primary helper) (0/1)	17% (12%)	16% (11%)	20% (16%)	2,441
IADL help from at least one adult child (Primary helper) (0/1)	36% (26%)	34% (25%)	41% (29%)	1,722
Money management help from at least one adult child (0/1)	30%	26%	41%	781
Total monthly hours from all adult children, ADL/IADL/money management	22.80 [88.86]	18.98 [79.83]	34.31 [110.98]	3,078
Financial				
Received more than $500 (0/1)	7%	7%	8%	9,979
Amount of money received	$268.72 [1,948.77]	$226.35 [1,334.88]	$245.01 [1,436.55]	9,979
Received paid ADL help (0/1)	3.5%	2.7%	5.8%	2,441
Received paid IADL help (0/1)	4.4%	3.5%	6.7%	1,722

Source: HRS RAND Family File (1992-2014); HRS Core Survey (1992-2014).
Notes: Numbers in brackets are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollar

Table 3. Effect of Average EITC Generosity on Caregiving Received from and Proximity to Unmarried Daughters

Panel A. Caregiving - Parent HH-Unmarried Daughter Dyads

		Chore help[c] (1)	ADL help (0/1)[b] (2)	Primary ADL helper (0/1)[b] (3)	Secondary ADL helper (0/1)[b] (4)	IADL help (0/1)[b] (5)	Primary IADL helper (0/1)[b] (6)	Secondary IADL helper (0/1)[b] (7)	Money management help (0/1)[b] (8)	Total monthly hours[b] (9)
Full Sample	Average EITC Benefits	-0.043	-0.006	0.016	-0.022	-0.004	-0.081*	0.077*	-0.087	-3.43
		(0.031)	(0.047)	(0.028)	(0.025)	(0.061)	(0.045)	(0.039)	(0.061)	(8.97)
	R^2	0.130	0.119	0.115	0.062	0.172	0.175	0.100	0.200	0.060
<65 years old [a]	Average EITC Benefits	-0.026	0.018	0.038	-0.020	-0.026	-0.058	0.032	-0.116	5.19
		(0.035)	(0.049)	(0.036)	(0.022)	(0.065)	(0.057)	(0.049)	(0.076)	(12.28)
	Observations	*3,504*		*2,173*			*1,514*		*667*	*2,767*
65+ years old [a]	Average EITC Benefits	-0.087*	-0.084	-0.041	-0.043	0.004	-0.171***	0.175	0.036	-24.43**
		(0.050)	(0.057)	(0.047)	(0.050)	(0.143)	(0.053)	(0.116)	(0.158)	(9.97)
	Observations	*1,250*		*837*			*644*		*304*	*1,054*

Panel B. Proximity - Parent HH-Unmarried Daughter Dyads

		Live within 10 miles (0/1)[b] (1)	Co-resident (0/1)[b] (2)
Full Sample	Average EITC Benefits	-0.024	-0.005
		(0.019)	(0.014)
	R^2	0.108	0.088
<65 years old [a]	Average EITC Benefits	-0.025	0.000
		(0.020)	(0.016)
	Observations	*10,522*	*10,590*
65+ years old [a]	Average EITC Benefits	0.029	-0.032
		(0.051)	(0.026)
	Observations	*3,037*	*3,064*

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

[c] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table 4. Effect of Average EITC Generosity on Money Transfers - Parent HH-Unmarried Daughter Dyads

		Received more than $500[b] (0/1)	Amount received ($)[b]
		(1)	(2)
Full Sample	Average EITC Benefits	-0.002	-1.29
		(0.007)	(40.50)
	R^2	0.046	0.026
<65 years old [a]	Average EITC Benefits	0.004	5.16
		(0.008)	(49.32)
	Observations	*9,370*	
65+ years old [a]	Average EITC Benefits	-0.016**	-19.70
		(0.007)	(19.46)
	Observations	*3,051*	

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table 5. Effect of Average EITC Generosity on Caregiving Received from All Adult Children (Parent Households)

		Chore help [c] (1)	ADL help (0/1) [b] (2)	Primary ADL helper (0/1) [b] (3)	Secondary ADL helper (0/1) [b] (4)	IADL help (0/1) [b] (5)	Primary IADL helper (0/1) [b] (6)	Secondary IADL helper(0/1) [b] (7)	Money management help (0/1) [b] (8)	Total monthly hours [b] (9)
Full Sample	Average EITC	-0.022	0.001	0.006	0.002	0.008	0.013	0.007	0.025	-2.062
	Benefits	(0.019)	(0.025)	(0.025)	(0.010)	(0.037)	(0.032)	(0.024)	(0.056)	(3.349)
	R^2	0.155	0.172	0.191	0.087	0.266	0.303	0.147	0.420	0.125
<65 years old [a]	Average EITC	-0.020	0.003	0.006	0.010	0.025	0.037	0.012	0.020	1.479
	Benefits	(0.020)	(0.027)	(0.027)	(0.012)	(0.040)	(0.037)	(0.022)	(0.065)	(4.362)
	Observations	*2,760*		*1,686*			*1,155*		*510*	*2,135*
65+ years old [a]	Average EITC	-0.020	-0.064	-0.063	-0.039	-0.131*	-0.158**	-0.056	-0.011	-24.33***
	Benefits	(0.036)	(0.045)	(0.048)	(0.037)	(0.074)	(0.066)	(0.088)	(0.131)	(8.14)
	Observations	*1,074*		*743*			*557*		*263*	*927*

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text and Table 5). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

[c] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table 6. Effect of Average EITC Generosity on Paid Help (Parent Households)

		Received paid ADL help (0/1) [b] (1)	Received paid IADL help (0/1) [b] (2)
Full Sample	Average EITC Benefits	-0.021**	0.008
		(0.010)	(0.017)
	Observations	*2,429*	*1,712*
<65 years old [a]	Average EITC Benefits	-0.012	-0.020
		(0.011)	(0.013)
	Observations	*1,686*	*1,155*
65+ years old [a]	Average EITC Benefits	-0.040**	0.072*
		(0.017)	(0.041)
	Observations	*743*	*557*

* p<0.1, ** p<0.05, *** p<0.01

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text and Table 5). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

APPENDIX A: Sample Representativeness Comparisons

The HRS is a nationally representative sample of American adults over the age of 50. Our analysis focuses on transfers of time and money between unmarried mothers of dependent children (and without a four-year college degree) and their parents. However, some of this group, especially those that are younger, may not have any parent over the age of 50. If so, their parents would not be eligible for inclusion in the HRS sample, and our analysis of those of this age using the HRS data would not be nationally representative. Instead, it would only be nationally representative for the subset of this age group that has a parent aged 51 or older.

To better analyze the age distribution of the parents of unmarried mothers without college degrees, we used the Panel Study of Income Dynamic's (PSID) 2013 Rosters and Transfers (R&T) Module. The PSID is a nationally representative household survey that has followed households and their offspring since 1968. While parent and child records can always be linked within and across study waves, the 2013 R&T module is ideal for this analysis, as it specifies the age of the parents (biological, adoptive) of all head of household individuals (and their spouses if applicable) in the PSID sample.

Using the parent unit records within the R&T module, we merged the 1968 ID and person numbers of all head of households ("heads") and their spouses (if applicable) to their PSID individual file records. This allowed us to then limit the R&T head of household and spouses sample to females without four-year college degrees between the ages of 19-39. This age range is both eligible to claim the EITC and likely to have most if not all their children still below the age of 19. We further limited the spouses sample to cohabitators, excluding legal wives. The only relevant group missing from this final R&T sample are those that live in someone else's household (such as their parents) and are thus not "heads" or spouses of "heads". To include this group, we keep all unmarried[1] females that are not "heads" or spouses of "heads" in the PSID Individual File. We limit this group to those aged 19-39 and without four-year college degrees. We link this group to their fathers and mothers (birth and adoptive) using the PSID Parent Identification File (PID).[2] We then keep those that have the same family ID number as at least one of their parents, as this indicates that they live in their parent's house, and retain information on the age of their parents. Adding this group to the final R&T sample results in 1,660 total observations.[3] For this final group, we once again link to the PID to identify those that are mothers.[4] Keeping only those that are mothers results in 1,130 total observations. This final sample corresponds to our sample of interest (unmarried mothers aged 19-39 without a four-year college degree) for analysis using the HRS data.

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[1] The PSID marital pairs indicator counts as married those that are permanently cohabitating. While it would be ideal to keep permanent cohabitators that are not "heads" or spouses of "heads" in our sample, they are thus unfortunately excluded from this analysis.

[2] First, we link the sample of unmarried females aged 19-39 and without four-year college degrees that are not "heads" or spouses of "heads" from the PSID Individual File to the PID, treating this sample as children. The PID then tells us the 1968 IDs and person numbers of everyone's father and mother (birth and adoptive). Linking back to the PSID Individual file based on these parent IDs allows us to identify each parent's PSID family identification number and age.

[3] This final number of observations is reached after dropping observations that have no information on any parent age (N=38).

[4] First, we link the sample to the PID, treating this sample as birth mothers. We create an indicator equal to one if the record successfully merged. Next, we link the sample to the PID, treating this sample as adoptive mothers. If the record successfully merged, the previous indicator also takes on a value of one.

74.5% of this final sample has at least one parent aged 51 or older (all results are weighted using the 2013 individual cross-section weights). This means that, by using the HRS sample, we are missing about 25.5% of our sample of interest (unmarried mothers aged 19-39 without a four-year college degree) due to their having younger parents (none over the age of 50). 61.9% of those without a parent over the age of 50 are less than 25 years old; about 59% of those between the ages of 19-24 are not estimated to have a parent over the age of 50. We thus exclude those under the age of 25 from our HRS analysis. The remainder of those without a parent over the age of 49 are mainly between the ages of 25 and 29: about 28% of this age group are not estimated to have a parent over the age of 50. Once the sample is limited to those 30 and older, only about 4% do not have a parent over the age of 50.[5] Therefore, in addition to analyzing our full HRS sample of unmarried mothers aged 25-39 without a four-year college degree, we also examine results for the following age groups: 25-29; 30-34; and 35-39. While results for the latter age groups can be viewed as nationally representative, results for those aged 25-29 are only nationally representative for the subset of this age group that has a parent aged 50 or older (about 72%).

We also use the PSID to confirm our upper limitation of the sample at 39 years old. We keep all women in the 2013 individual file and identify the number of dependent, household children (of "heads" and cohabitators, see above) that correspond to each family identification number. We then keep only "heads" and cohabitators, excluding legal wives, and those between age 40-45 with less than 16 years of education. We merge this sample with the R&T module information to exclude those without living parents (9% of sample), who would not appear in the HRS sample. We also drop those who never gave birth to a child. The resulting dataset (N=182) provides us with information on both the number of children ever born and the number of dependent, household children that correspond to each woman. A weighted cross-tab of these variables reveals that about one-third (36%) of this sample of unmarried mothers no longer has any child under age 18 in their household. In addition, for the majority, their number of children is greater than their number of dependents. Since the HRS does not contain information about the age of grandchildren, simply using the provided information on number of children for this age group of adult children of HRS Respondents will cause us to overestimate average EITC benefit generosity, as most of these unmarried mothers have at least one child that is no longer a dependent for EITC purposes. In contrast, for the oldest group in our HRS sample (aged 35-39), only 16% is estimated to no longer have any child under age 18 in their household. In addition, for most of this age group, their number of children matches their number of dependents.

[5] About 6% of those between the ages of 30-34 are not estimated to have a parent over the age of 50.

Table A1. Sample Comparison with PSID 2013

	All	Those with at least one parent age 51 or older
Age	31.12	31.71
Number of kids (1,2,3+)	1.85	1.84
Education		
No high school diploma	0.13	0.13
High school graduate	0.46	0.43
Some college	0.41	0.44
Employment / Income		
Employed	0.64	0.64
Low-income (<$35,000)	0.87	0.85
Race		
Non-Hispanic White	0.42	0.44
Non-Hispanic Black	0.29	0.28
Hispanic	0.22	0.21
Other	0.01	0.01
Number of Observations	736	617

Source: Panel Study of Income Dynamics (PSID) 2013, including information from the Rosters and Transfers (RT) Module.

Notes: This year of the PSID data was selected as it is the only year the RT module was conducted, which provides easily accessible information on the age of respondent's parents. Sample restricted to unmarried women (including those that are not PSID heads of household or partners of a head of household) with less than 16 years of education and at least one child under the age of 18 residing in the household. Low-income indicator calculated using nominal dollars. Race categories do not sum to one because information is missing for some of the non-heads/non-partners of "heads". Results are weighted using 2013 individual cross-sectional weights.

APPENDIX B: State of Residence Imputation Process

Within the restricted HRS geo-coded data, information on the state of residence of the children of HRS Respondents was not fully collected until 2004. Prior to 2004, we have information on the HRS Respondents' state of residence, as well as whether the Respondent lives within 10 miles of each of their children. As of 2004, if an HRS Respondent does not report living within 10 miles of their child, they are asked for that child's state of residence (otherwise, the HRS Respondent's state of residence is assumed). To utilize variation in state EITC benefits prior to 2004, it is thus necessary to impute state of residence information for sample members observed prior to 2004.

Child state of residence information for those living more than 10 miles from their parents (2004 onwards) covers 19.1% of all [unweighted] 13,958 person-year observations. Those that are recorded as living within 10 miles of their parents comprise an additional 53.6% of the sample. For the remaining 27.3% of the sample (those that neither live within 10 miles of their parents nor have reported information on their state of residence in that year), we can impute state of residence in four ways:

1. Use information on state of residence that was provided by a parent in a different household and recorded during the same survey wave. This option is only possible for those that have parents who are separated and live in different households.
2. Assign the state of residence of their parent (HRS respondent).
3. "Pull forward" information on state of residence recorded in prior survey waves.
4. "Pull backward" information on state of residence recorded in subsequent survey waves.

We begin with the first method, which allows us to fill in state information for 0.16% of all 13,958 person-year observations.[6]

To decide between the remaining three methods, we first evaluate the error rates associated with each. For method #2, we evaluate how many HRS respondents that do not live within 10 miles of their adult child live in the same state as their adult child by using all sample person-years between 2004 and 2014. This is the full set of years for which we have reported information by HRS Respondents on their children's state of residence. We keep all records that do not have missing information for either respondent or child state of residence (N=2,520) and create an indicator equal to one if these states are the same. We find that 64.60% live in the same state as their parent (HRS respondent). Assigning the state of the HRS respondent (Imputation Method #2) would thus have an estimated error rate of 35.40%.

To simulate the error rate of "pulling forward" versus "pulling back" (Imputations Methods #3 and 4, respectively), we use all records[7] of the female children of HRS respondents between 2004-2014. This is the full set of years for which we have reported information by HRS respondents on their children's state of residence. To simulate the error rate of "pulling forward" 10 years, we keep all person-year records of individuals observed in 2014 and 2004 that do not have missing information on their state of residence in either year. We attach variables to these 2014 records

[6] These observations correspond to individuals that are recorded as living within 10 miles of one parent, but not the other, with the parents living in separate households. We thus only allow this imputation to occur if the state of residence of the two parents (each HRS Respondent) is the same.

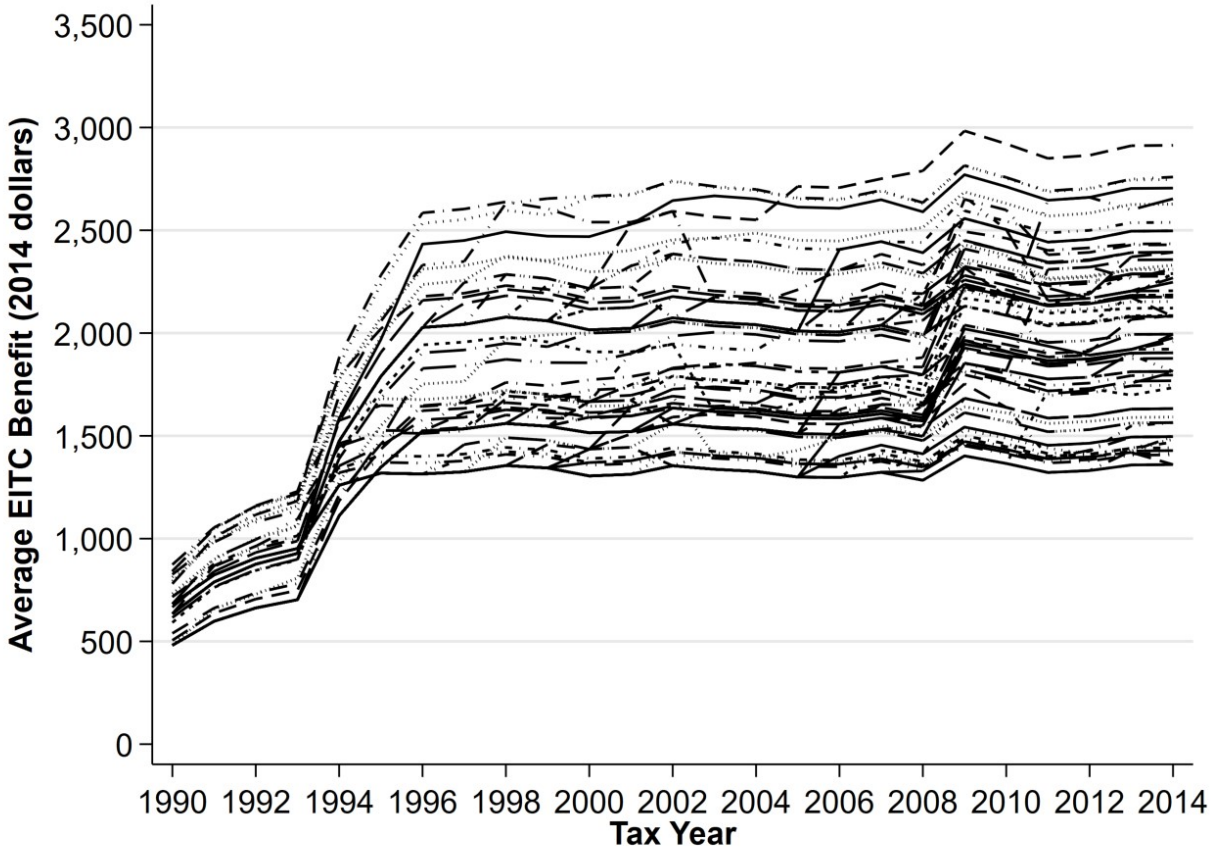
[7] This includes records when the individual was married, had obtained a college education, was younger than 19, or older than 39, even though these records will eventually be excluded from our final regression analysis sample of person-years.

that specify the individual's state of residence in 2014 and 2004. Then, we limit to those that match our sample of interest: aged 25-39, unmarried, less than 16 years of education, has at least one child. We also drop those that are recorded as living within 10 miles of their parents, since, as explained above, we already impute parent state of residence for these individuals. For those that remain, we create a dummy variable equal to 1 if 2014 state of residence does not match 2004 state of residence. This is our estimation of the error rate generated by this imputation process. We repeat this process for "pulling forward" 8, 6, 4, and 2 years, as well as "pulling backward" 2, 4, 6, 8, and 10 years. "Pulling forward" is associated with somewhat higher error rates than "pulling backward" the same amount of years; however, both imputation methods are estimated to be less prone to error than assigning the state of the HRS respondent (Imputation Method #2). For example, "pulling backward" two years has an estimated error rate of 4.82%, while "pulling forward" two years has an estimated error rate of 7.37%. Pulling back/forward less years generally results in lower estimated error rates.

We thus proceed with imputing child's state of residence by first exhausting all possible "pulling backward" imputations of state of residence before "pulling forward". "Pulling backward" allows us to fill in state information for 20.7% of all 13,958 person-year observations. The majority are filled in by "pulling backward" only 2-4 years. State of residence information for an additional 1.4% of all observations is then imputed by "pulling forward". Once again, the majority of these are filled in by "pulling forward" only 2-4 years.

Overall then, in addition to the 19.1% of all 13,958 person-year observations that have recorded child state of residence information for those living more than 10 miles away from their parent(s), an additional 53.6% live within 10 miles of their parents and are thus assumed to live in the same state as the HRS respondent; an additional 0.16% have state of residence information imputed that was provided by a parent in a different household and recorded during the same survey wave (divorced/separated parents living in the same state); an additional 20.7% have state of residence imputed via "pulling backward" information on state of residence recorded in subsequent survey waves; and an additional 1.4% have state of residence imputed via "pulling forward" information on state of residence recorded in prior survey waves. This leaves about 5% of the sample that still has missing state of residence information. For this remainder, we assign the state of the HRS respondent (Imputation Method #4), which, as noted previously, is associated with the highest estimated error rate. After doing so, only 6 observations need to be dropped from the sample due to missing state of residence information [final unweighted N=13,958 person-years].

Figure B1. Federal and State EITC Policy Variation during sample period



Source: Current Population Survey Annual Social and Economic Supplement (CPS ASEC) 1990.
Notes: Variation in federal and state simulated Earned Income Tax Credit (EITC), by number of children residing in the household. CPS ASEC 1990 survey and National Bureau of Economic Research's TAXSIM program. Sample restricted to unmarried women aged 25-39 with less than a Bachelor's degree with at least one child under the age of 19 residing in the household. Average household state and federal EITC benefits from 1990 to 2014 in 2014 dollars. Each line represents a separate state and number of children (1, 2, or 3+) combination; federal benefits only by number of children are also represented. See description of simulated EITC in the text for more details.

Table B1. State Imputation Robustness Checks – Alternative Specifications

	Main Specification	**Federal AvgEITC Variation Only**	**Limited State Imputation Sample [c]**
	Average EITC Benefits (500s) (1)	Average Federal EITC Benefits (500s) (2)	Average EITC Benefits (500s) (3)
AVERAGE AGE OF HRS RESPONDENT(S) <65			
Received more than $500 (0/1) [a]	**0.0040**	0.0003	0.0056
	(0.0076)	(0.0085)	(0.0098)
Amount received [a]	**5.1601**	26.5243	11.2026
	(49.3186)	(64.5405)	(58.0384)
Chore help (0/1) [a]	**-0.0263**	-0.0428	0.0043
	(0.0352)	(0.0366)	(0.1034)
ADL help (0/1) [b]	**0.0178**	-0.0117	0.0318
	(0.0491)	(0.0415)	(0.0659)
IADL help (0/1) [b]	**-0.0262**	-0.0990	-0.0066
	(0.0654)	(0.0758)	(0.0744)
Primary IADL helper (0/1) [b]	**-0.0583**	-0.0592	-0.0610
	(0.0569)	(0.0671)	(0.0614)
Secondary IADL helper (0/1) [b]	**0.0321**	-0.0398	0.0544
	(0.0485)	(0.0499)	(0.0558)
Money management help (0/1) [b]	**-0.1163**	-0.1681	-0.1285
	(0.0760)	(0.1077)	(0.0849)
Total monthly hours – functional help [b]	**5.1922**	4.1945	4.5603
	(12.2791)	(7.6325)	(13.8683)
Live within 10 miles (0/1) [b]	**-0.0253**	-0.0430*	0.0062
	(0.0197)	(0.0222)	(0.0177)
Co-resident (0/1) [b]	**0.0004**	0.0003	0.0269
	(0.0160)	(0.0202)	(0.0192)
AVERAGE AGE OF HRS RESPONDENT(S) 65+			
Received more than $500 (0/1) [a]	**-0.0157****	-0.0100	-0.0099
	(0.0073)	(0.0105)	(0.0067)
Amount received [a]	**-19.6992**	-35.5370*	-10.5234
	(19.4624)	(19.8977)	(23.3129)
Chore help (0/1) [a]	**-0.0873***	-0.0285	-0.6491
	(0.0501)	(0.0762)	(0.6849)
ADL help (0/1) [b]	**-0.0841**	-0.0817	-0.0646
	(0.0571)	(0.1307)	(0.0608)
IADL help (0/1) [b]	**0.0044**	0.0410	0.0185
	(0.1425)	(0.1870)	(0.1554)
Primary IADL helper (0/1) [b]	**-0.1705*****	-0.2170**	-0.1910***
	(0.0527)	(0.0882)	(0.0560)
Secondary IADL helper (0/1) [b]	**0.1749**	0.2580	0.2095
	(0.1165)	(0.1684)	(0.1308)
Money management help (0/1) [b]	**0.0360**	0.1914	0.0560
	(0.1580)	(0.2370)	(0.2302)
Total monthly hours – functional help [b]	**-24.4337****	-42.4273***	-26.9078**
	(9.9719)	(13.1278)	(12.3388)
Live within 10 miles (0/1) [b]	**0.0286**	0.0485	0.0374
	(0.0510)	(0.0589)	(0.0537)

Co-resident (0/1) [b]	**-0.0316**	-0.0289	-0.0266
	(0.0261)	(0.0444)	(0.0298)

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Standard errors in parentheses. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls including a cubic in unmarried daughters age, her educational attainment, race-ethnicity, and number of children, state unemployment rate, state maximum welfare benefit, state minimum wage, state GDP, a state-specific linear time trends, state fixed effects, and year fixed effects plus additional indicated controls. Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

[c] This sub-sample (N=11,071) is limited to those that live within 10 miles of their parent(s), live further than 10 miles from their parent(s) but have state of residence information recorded (observed 2004 onwards), or have state of residence information "pulled back" or "pulled forward" within two years to fill in missing information. See Appendix B text for more information.

APPENDIX C: OUTCOME QUESTION WORDING FROM HRS QUESTIONNAIRE[8]

Chore Help

- (2002 Questionnaire, Question HG084): "Since [R LAST IW MONTH], [R LAST IW YEAR]/In the last two years], [has/have] your (and your [husband's/wife's/partner's]) [child/children] (or grandchildren) spent any time helping you with household chores, errands, transportation, etc.?"
    - [IF HG084 = YES] "Which child(ren) helped?" (Question HG085M1)

Needs ADL Help (2014 Questionnaire, Question OG014): "Here are a few more everyday activities. Please tell me if you have any difficulty with these because of a physical, mental, emotional or memory problem. Again exclude any difficulties you expect to last less than three months."

- "Because of a health or memory problem do you have any difficulty with dressing, including putting on shoes and socks?" (Question OG014)
- "Because of a health or memory problem do you have any difficulty with walking across a room?" (Question OG016)
- "Because of a health or memory problem do you have any difficulty with bathing or showering?" (Question OG021)
- "Because of a health or memory problem do you have any difficulty with eating, such as cutting up your food?" (Question OG023)
- "Because of a health or memory problem do you have any difficulty with getting in or out of bed?" (Question OG025)
- "Because of a health or memory problem do you have any difficulty with using the toilet, including getting up and down?" (Question OG030)

Received ADL Help

- [IF OG014 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you dress?" (Question OG015)
- [IF OG016 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you get across a room?" (Question OG020)
- [IF OG021 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you bathe?" (Question OG022)
- [IF OG023 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you eat?" (Question OG024)
- [IF OG025 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you get in or out of bed?" (Question OG029)
- [IF OG030 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you use the toilet?" (Question OG031)

[8] See https://hrs.isr.umich.edu/documentation/codebooks and https://hrs.isr.umich.edu/documentation/questionnaires for more information.

Primary ADL Helper

- [IF OG015/ OG020/ OG022/ OG024/ OG029/ OG031 = YES] "Who most often helps you with [getting across a room/dressing/bathing/eating/getting (in/out of) bed/using the toilet]?" (Question OG032_1) *NOTE: INCLUDED IN THE QUESTION, ABOVE, ARE ANY ACTIVITIES WITH WHICH R REPORTED RECEIVING HELP IN PRIOR QUESTIONS.*
    - "What is that person's relationship to you?" (Question OG033_1)
        - Based on the response to this question, the help is either captured in the RAND Family File (if provided by son/stepson/daughter/stepdaughter of HRS Respondent) or we code the HRS Respondent(s) as receiving paid ADL help (from those specified as "organizations", "employees of institutions", "paid helpers", or "professionals").[9]

Secondary ADL Helper[10]

- [IF OG015/ OG020/ OG022/ OG024/ OG029/ OG031 = YES] "Does anyone else help you with (this activity/these activities)?" (Question OG035_1) *NOTE: INCLUDED IN THE QUESTION, ABOVE, ARE ANY ACTIVITIES WITH WHICH R REPORTED RECEIVING HELP IN PRIOR QUESTIONS.*
    - "What is that person's relationship to you?" (Question OG033_2)
        - Based on the response to this question, the help is either captured in the RAND Family File (if provided by son/stepson/daughter/stepdaughter of HRS Respondent) or we code the HRS Respondent(s) as receiving paid ADL help (from those specified as "organizations", "employees of institutions", "paid helpers", or "professionals").

Needs IADL Help

- "Because of a health or memory problem do you have any difficulty preparing a hot meal?" (Question OG041)
- "Because of a health or memory problem do you have any difficulty with shopping for groceries?" (Question OG044)
- "Because of a health or memory problem do you have any difficulty with making phone calls?" (Question OG047)
- "Because of a health or memory problem do you have any difficulty taking medications?" (Question OG050)

Received IADL Help

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[9] For the 1996, 1998, and 2000 HRS questionnaires, instead of this sequence, a binary indicator is available for each specified helper that states whether they were paid (for example, Question E162-1 in the 2000 HRS Questionnaire states "Is [helper] paid to help you?").

[10] Question OG035_1 is repeated (e.g., OG035_2, OG035_3, etc.), along with Question OG033, until the HRS Respondent answers "no". This identifies all secondary ADL helpers (can be up to seven).

- [IF OG041 = YES, DON'T KNOW, OR REFUSE] "Does anyone help you prepare hot meals?" (Question OG043)
- [IF OG044 = YES, DON'T KNOW, OR REFUSE] "Does anyone help you shop for groceries?" (Question OG046)
- [IF OG047 = YES, DON'T KNOW, OR REFUSE] "Does anyone help you make telephone calls?" (Question OG049)
- [IF OG050 = YES, DON'T KNOW, OR REFUSE] "Does anyone help you with taking medications?" (Question OG053)

Primary IADL Helper

- [IF OG041/ OG044/ OG047/ OG050 = YES] "Who most often helps you with [prepare meals,/shop for groceries,/make telephone calls,/take medications]?" (Question OG054_1) *NOTE: INCLUDED IN THE QUESTION, ABOVE, ARE ANY ACTIVITIES WITH WHICH R REPORTED RECEIVING HELP IN PRIOR QUESTIONS.*
    - "What is that person's relationship to you?" (Question OG055_1)
        - Based on the response to this question, the help is either captured in the RAND Family File (if provided by son/stepson/daughter/stepdaughter of HRS Respondent) or we code the HRS Respondent(s) as receiving paid IADL help (from those specified as "organizations", "employees of institutions", "paid helpers", or "professionals").

Secondary IADL Helper[11]

- [IF OG041/ OG044/ OG047/ OG050 = YES] "Does anyone else help you [prepare meals,/shop for groceries,/make telephone calls,/take medications]?" (Question OG057_1) *NOTE: INCLUDED IN THE QUESTION, ABOVE, ARE ANY ACTIVITIES WITH WHICH R REPORTED RECEIVING HELP IN PRIOR QUESTIONS.*
    - "What is that person's relationship to you?" (Question OG055_2)
        - Based on the response to this question, the help is either captured in the RAND Family File (if provided by son/stepson/daughter/stepdaughter of HRS Respondent) or we code the HRS Respondent(s) as receiving paid IADL help (from those specified as "organizations", "employees of institutions", "paid helpers", or "professionals").

[11] Question OG057_1 is repeated (e.g., OG057_2, OG057_3, etc.), along with Question OG055, until the HRS Respondent answers "no". This identifies all secondary IADL helpers (can be up to six).

Needs Money management Help

- "Because of a health or memory problem do you have any difficulty with managing your money -- such as paying your bills and keeping track of expenses?" (Question OG059)

Received Money management Help

- [IF OG059 = YES, DON'T KNOW, OR REFUSE] "Does anyone ever help you manage your money?" (Question OG061)

Money management Helpers[12]

- [IF OG061 = YES] "Who most often helps you manage your money?" (Question OG062_1)
    - "What is that person's relationship to you?" (Question OG063_1)
- [IF OG061 = YES] "Does anyone else help you manage your money?" (Question OG065_1)
    - "What is that person's relationship to you?" (Question OG063_2)

Total monthly hours functional limitations help

- RAND constructs this variable based on the following HRS Core Survey questions (examples from 2014 questionnaire):
    - "[Let's think for a moment about the help you receive that we just talked about. [First,/Next,] the help from [Helper Name]. During the last month, on about how many days did [Helper Name] help you?" (Question OG070)
        - "On the days [Helper Name] helps you, about how many hours per day is that?" (Question OG073)

Child lives within 10 miles

- (2014 Questionnaire, Question OE012) "Do any of your children who do not live with you live within 10 miles of you?"[13]
    - [IF OE012 = YES] "Which children?" (Question OE01M1-12, choose all that apply)

Child co-resident

- (2014 Questionnaire, Question OE012) "Do any of your children who do not live with you live within 10 miles of you?"
    - [IF OE012 = YES] "Which children?" (Question OE01M1-12, choose all that apply)
    - RAND denotes ".L" for this question if the child co-resides with the HRS respondent(s). We recode this variable to equal "1" if the child is co-resident and "0" otherwise.

[12] Due to the small sample size of those receiving money management help, we do not separately identify primary versus secondary helpers in our empirical analysis, although this is possible given the question wording.

[13] RAND denotes ".L" for this question if the child co-resides with the HRS respondent(s). We recode this variable to count these co-resident children as living within 10 miles of their parent(s) (HRS respondent(s)).

Gave more than $500

- (2014 Questionnaire, Question OE087) "[Since [Previous Wave IW Month of Family R], [Previous Wave IW Year of Family R]/[in the last two years] did you [or your [husband/wife/partner] [or your] [late husband/late wife/late partner] receive financial help totaling $500 or more from [any of your children] (or grandchild(ren))?
    - [IF OE087 = YES] "Which children (or grandchildren)?" (Question OE091)

Amount given

- (2014 Questionnaire, Question OE093) "About how much did that amount to from [CHILDn NAME (& CHILDn's SPOUSE/PARTNER's NAME)?" *(IF NAME WAS SELECTED at OE091)*

APPENDIX D: Additional Tables and Robustness Checks

Table D1. Effect of Average EITC Generosity on Paid Help Limited to 2002 Onwards (Parent Households)

		Received paid ADL help [b] (0/1) (1)	Received paid IADL help [b] (0/1) (2)
Full Sample	**Average EITC Benefits**	-0.012	0.010
		(0.008)	(0.031)
	Observations	1,680	1,195
<65 years old [a]	**Average EITC Benefits**	0.003	-0.019
		(0.010)	(0.018)
	Observations	1,186	823
65+ years old [a]	**Average EITC Benefits**	-0.041	0.115
		(0.027)	(0.086)
	Observations	494	372

* p<0.1, ** p<0.05, *** p<0.01

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text and Table 5). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the Respondent state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

Table D2. Summary Statistics – Parent Households

Variable	Mean	SD
Average EITC Benefit Eligibility (lagged)	$1,905.05	931.69
Number of Adult Children	4.48	2.02
Number of Daughters	2.65	2.43
Number of Sons	1.85	1.49
Number of Unmarried Daughters*	1.18	0.48
Has Stepchild*	34%	
Age of Oldest Adult Child*	39.49	6.84
Has Adult Child with College Degree*	31%	
Total Number of Grandchildren*	8.06	6.01
Max Number of Grandchildren for EITC purposes*	2.00	0.82
Observations	10,923	

Source: HRS RAND Family File (1992-2014), HRS RAND Longitudinal File (1992-2020).

Notes: Sample restricted to HRS Respondent(s) that have at least one unmarried daughter aged 25-39 with less than 16 years of education and at least one child of her own. All dollars are real CPI-adjusted 2014 dollars. All means are weighted using the HRS household analysis weight, taken by RAND from the HRS Tracker file.

* Denotes that this variable is included as a control within the modified vector Z_{jsct} for the HRS Respondent Level Analysis.

Table D3. Effect of Average EITC Generosity on Money Transfers – Parent Households

		Received more than $500[b] (0/1) (1)	Amount received ($)[b] (2)
Full Sample	Average EITC Benefits	-0.005	28.56
		(0.006)	(42.16)
	R^2	0.061	0.035
<65 years old [a]	Average EITC Benefits	-0.002	42.29
		(0.007)	(47.76)
	Observations	*7,299*	
65+ years old [a]	Average EITC Benefits	-0.016	-64.38
		(0.013)	(64.57)
	Observations	*2,648*	

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table D4. Estimates Robust to Various Sets of Controls: Unmarried Daughter-Parent HH Dyads

	(1)	(2)	(3)	(4)	(5)
AVERAGE AGE OF HRS RESPONDENT(S) <65					
Received more than $500 (0/1) [b]	-0.0052	-0.0051	**0.0040**	0.0049	0.0026
	(0.0081)	(0.0078)	**(0.0076)**	(0.0077)	(0.0089)
Amount received [b]	-45.1243	-41.5568	**5.1601**	13.6689	28.4144
	(50.7258)	(46.5674)	**(49.3186)**	(55.4113)	(61.2121)
Chore help (0/1) [b]	-0.0255	-0.0179	**-0.0263**	-0.0389	-0.0418
	(0.0341)	(0.0375)	**(0.0352)**	(0.0343)	(0.0349)
ADL help (0/1) [a]	0.0410	0.0423	**0.0178**	0.0222	0.0502
	(0.0373)	(0.0354)	**(0.0491)**	(0.0506)	(0.0573)
IADL help (0/1) [a]	-0.0370	-0.0383	**-0.0262**	0.0121	-0.0408
	(0.0509)	(0.0509)	**(0.0654)**	(0.0727)	(0.0881)
Primary IADL helper (0/1) [a]	-0.0939**	-0.0939***	**-0.0583**	-0.0463	-0.0527
	(0.0350)	(0.0345)	**(0.0569)**	(0.0611)	(0.0778)
Secondary IADL helper (0/1) [a]	0.0569	0.0556	**0.0321**	0.0584	0.0118
	(0.0366)	(0.0371)	**(0.0485)**	(0.0436)	(0.0576)
Money management help (0/1) [a]	-0.1330**	-0.1434**	**-0.1163**	-0.1407*	-0.0863
	(0.0630)	(0.0615)	**(0.0760)**	(0.0700)	(0.1085)
Total monthly hours – functional help [a]	-1.8034	-2.1986	**5.1922**	6.0460	7.7314
	(11.5845)	(11.4202)	**(12.2791)**	(12.1125)	(12.8659)
Live within 10 miles (0/1)	-0.0429**	-0.0418**	**-0.0253**	-0.0289	-0.0346*
	(0.0169)	(0.0172)	**(0.0197)**	(0.0198)	(0.0204)
Co-resident (0/1)	-0.0054	-0.0056	**0.0004**	-0.0006	0.0076
	(0.0140)	(0.0146)	**(0.0160)**	(0.0163)	(0.0184)
AVERAGE AGE OF HRS RESPONDENT(S) 65+					
Received more than $500 (0/1) [b]	-0.0228***	-0.0227***	**-0.0157****	-0.0166**	-0.0237*
	(0.0063)	(0.0062)	**(0.0073)**	(0.0081)	(0.0123)
Amount received [b]	-40.0790***	-41.6314***	**-19.6992**	-21.9995	-56.4307**
	(13.8913)	(13.3098)	**(19.4624)**	(19.4117)	(22.7863)
Chore help (0/1) [b]	-0.0863*	-0.1029**	**-0.0873***	-0.0969*	-0.0807
	(0.0436)	(0.0427)	**(0.0501)**	(0.0504)	(0.0540)
ADL help (0/1) [a]	-0.0571	-0.0427	**-0.0841**	-0.1100*	-0.1272
	(0.0479)	(0.0484)	**(0.0571)**	(0.0620)	(0.1070)
IADL help (0/1) [a]	0.0573	0.0484	**0.0044**	0.0554	0.1308
	(0.0976)	(0.1063)	**(0.1425)**	(0.2017)	(0.2277)
Primary IADL helper (0/1) [a]	-0.1054**	-0.1098**	**-0.1705*****	-0.1939***	-0.1323
	(0.0449)	(0.0476)	**(0.0527)**	(0.0639)	(0.1027)
Secondary IADL helper (0/1) [a]	0.1627*	0.1582*	**0.1749**	0.2492	0.2631
	(0.0809)	(0.0799)	**(0.1165)**	(0.1584)	(0.1738)
Money management help (0/1) [a]	-0.0600	-0.0221	**0.0360**	0.0094	0.1447
	(0.0987)	(0.1150)	**(0.1580)**	(0.2022)	(0.3514)
Total monthly hours – functional help [a]	-17.6151**	-17.9197**	**-24.4337****	-28.5183**	-24.3902**
	(7.2880)	(7.0796)	**(9.9719)**	(12.3599)	(10.3686)
Live within 10 miles (0/1)	0.0206	0.0230	**0.0286**	0.0119	0.0084
	(0.0491)	(0.0484)	**(0.0510)**	(0.0553)	(0.0634)
Co-resident (0/1)	-0.0275	-0.0274	**-0.0316**	-0.0269	-0.0258
	(0.0268)	(0.0261)	**(0.0261)**	(0.0290)	(0.0397)
Controls					
Demographic Controls	X	X	**X**	X	X
State, Year FEs	X	X	**X**	X	X
State-Year Economic / Policy Conditions		X	**X**	X	
Linear State Time Trend			**X**	X	
Quadratic State Time Trend				X	
State x Year FEs					X

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].

[b] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table D5. Effect of Average EITC Generosity on Total Monthly Hours of Functional Limitations Help - Parent HH-Unmarried Daughter Dyads, Non-Linear (PPMLHDFE) Models; Incidence Rate Ratios

		Total monthly hours[b]
Full Sample	Average EITC Benefits	0.507
		(0.381)
<65 years old [a]	Average EITC Benefits	0.964
		(0.776)
65+ years old [a]	Average EITC Benefits	0.049**
		(0.069)

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).

Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, we construct the continuous measure of hours as the sum of hours of help provided in the past month by the unmarried daughter for both parents.. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.

[a] These sub-samples are created based on the average age of the HRS Respondent household. For partnered/married HRS Respondent households this is equal to the sum of family respondent and spouse/partner ages divided by two.

[b] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].

Table D6. Robustness Checks – Alternative Specifications: Unmarried Daughter-Parent HH Dyads

	Main Specification	**Main Specification with TANF and CTC controls**	**Federal AvgEITC Variation Only**
	Average EITC Benefits (500s) (1)	Average EITC Benefits (500s) (2)	Average Federal EITC Benefits (500s) (3)
AVERAGE AGE OF HRS RESPONDENT(S) <65			
Received more than $500 (0/1) [a]	**0.0040**	0.0044	0.0003
	(0.0076)	(0.0074)	(0.0085)
Amount received [a]	**5.1601**	7.8018	26.5243
	(49.3186)	(52.0651)	(64.5405)
Chore help (0/1) [a]	**-0.0263**	-0.0274	-0.0428
	(0.0352)	(0.0353)	(0.0366)
ADL help (0/1) [b]	**0.0178**	0.0069	-0.0117
	(0.0491)	(0.0535)	(0.0415)
IADL help (0/1) [b]	**-0.0262**	-0.0185	-0.0990
	(0.0654)	(0.0669)	(0.0758)
Primary IADL helper (0/1) [b]	**-0.0583**	-0.0580	-0.0592
	(0.0569)	(0.0568)	(0.0671)
Secondary IADL helper (0/1) [b]	**0.0321**	0.0395	-0.0398
	(0.0485)	(0.0484)	(0.0499)
Money management help (0/1) [b]	**-0.1163**	-0.1116	-0.1681
	(0.0760)	(0.0772)	(0.1077)
Total monthly hours – functional help [b]	**5.1922**	4.5417	4.1945
	(12.2791)	(12.2404)	(7.6325)
Live within 10 miles (0/1) [b]	**-0.0253**	-0.0329	-0.0430*
	(0.0197)	(0.0203)	(0.0222)
Co-resident (0/1) [b]	**0.0004**	-0.0081	0.0003
	(0.0160)	(0.0156)	(0.0202)
AVERAGE AGE OF HRS RESPONDENT(S) 65+			
Received more than $500 (0/1) [a]	**-0.0157****	-0.0131*	-0.0100
	(0.0073)	(0.0076)	(0.0105)
Amount received [a]	**-19.6992**	-16.9325	-35.5370*
	(19.4624)	(21.6357)	(19.8977)
Chore help (0/1) [a]	**-0.0873***	-0.0813	-0.0285
	(0.0501)	(0.0504)	(0.0762)
ADL help (0/1) [b]	**-0.0841**	-0.0801	-0.0817
	(0.0571)	(0.0589)	(0.1307)
IADL help (0/1) [b]	**0.0044**	0.0251	0.0410
	(0.1425)	(0.1488)	(0.1870)
Primary IADL helper (0/1) [b]	**-0.1705*****	-0.1598***	-0.2170**
	(0.0527)	(0.0593)	(0.0882)
Secondary IADL helper (0/1) [b]	**0.1749**	0.1848	0.2580
	(0.1165)	(0.1145)	(0.1684)
Money management help (0/1) [b]	**0.0360**	0.0165	0.1914
	(0.1580)	(0.1549)	(0.2370)
Total monthly hours – functional help [b]	**-24.4337****	-22.1993**	-42.4273***
	(9.9719)	(9.4291)	(13.1278)
Live within 10 miles (0/1) [b]	**0.0286**	0.0321	0.0485
	(0.0510)	(0.0467)	(0.0589)
Co-resident (0/1) [b]	**-0.0316**	-0.0321	-0.0289
	(0.0261)	(0.0227)	(0.0444)

* p<0.1, ** p<0.05, *** p<0.01

Source: HRS RAND Family File (1992-2014).
Notes: Numbers in parentheses are standard errors. Sample restricted to parent household-unmarried daughter dyads in which the unmarried daughter is aged 25-39 with less than 16 years of education and has at least one child. All measures are aggregated at the HRS Respondent household level, meaning that, in the case that a HRS Respondent is married or partnered, binary indicators take on a value of 1 if applicable for either member of the couple. All dollars are real CPI-adjusted 2014 dollars. EITC benefits calculated using TAXSIM. "Average EITC Benefits" are defined as the average federal and state EITC benefits the adult child of an HRS respondent receives, based on the year, state, marital status, and their number of children. All specifications include the full set of controls (see text and Table 5). Regressions are weighted using HRS household analysis sampling weights and robust standard errors are clustered at the state level. Each cell corresponds to a separate regression.
[a] The regressions for these dependent variables use a double lagged measure of "Average EITC Benefits" [see text for more information].
[b] The regressions for these dependent variables use a lagged measure of "Average EITC Benefits" [see text for more information].