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# DIVORCE, FAMILY ARRANGEMENTS, AND CHILDREN'S ADULT OUTCOMES

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## ABSTRACT

Nearly a third of American children experience parental divorce before adulthood. To understand its consequences, we use linked tax and Census records for over 5 million children to examine how divorce affects family arrangements and children's long-term outcomes. Following divorce, parents move apart, household income falls, parents work longer hours, families move more frequently, and households relocate to poorer neighborhoods with less economic opportunity. This bundle of changes in family circumstances suggests multiple channels through which divorce may affect children's development and outcomes. In the years following divorce, we observe sharp increases in teen births and child mortality. To examine long-run effects on children, we compare siblings with different lengths of exposure to the same divorce. We find that parental divorce reduces children's adult earnings and college residence while increasing incarceration, mortality, and teen births. Changes in household income, neighborhood quality, and parent proximity account for 25 to 60 percent of these divorce effects.

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# 1 Introduction

Families are a fundamental institution shared across profoundly different societies. Sociologists and political philosophers have long recognized the family as the "first and foremost institution," a sentiment echoed by Gary Becker in his Nobel Prize lecture (Murdock, 1949; Becker, 1981; Levin, 2020).[1] Yet, over the last century, family structure has changed dramatically, with rising divorce rates (Friedberg, 1998; Wolfers, 2006) and falling marriage rates (Akerlof et al., 1996; Lundberg and Pollak, 2015). As shown in Figure 1, the prevalence of divorce in the United States has more than tripled, with a steep increase starting in the late 1960s (Kennedy and Ruggles, 2014). Today, nearly a third of American children experience their parents' divorce before adulthood.

Perspectives about the impact of divorce on children, however, diverge sharply. One view holds that unhappy marriages fundamentally harm children through exposure to parental conflict and poorly modeled behavior, making marital dissolution beneficial for both parents and their children (Waite and Gallagher, 2001; Hetherington, 2003; Cherlin, 2010; Krantzler, 2014). A contrasting view argues that divorce may harm children by reducing financial resources, family stability, parental time investment, and children's emotional security (Suomi and Leroy, 1982; Cherlin et al., 1991; Strohschein, 2005; Chetty et al., 2014b; Dahl et al., 2014; Barr et al., 2022). In a third view, inherited and idiosyncratic influences dwarf the role of family environment, suggesting divorce has minimal effect (Bouchard et al., 1990; Pinker, 2003; Harris, 2011; Clark, 2015).[2]

These disagreements have proven difficult to resolve empirically. Most evidence comes from cross-sectional comparisons in small retrospective surveys that likely fail to measure true causal effects (McLanahan and Bumpass, 1988; Strohschein, 2005; Lerman et al., 2017).[3] The fundamental challenge lies in selection, since divorcing families likely differ from those that remain intact. Data limitations compound the problem since few large datasets simultaneously track family structure, link parents to children, and measure children's long-term outcomes.

We overcome these longstanding challenges using linked tax and Census data covering all children born in the United States between 1988 and 1993. We use tax records to trace out marital histories for each parent and link them to data on households and child outcomes. We address selection into divorce using both panel methods and a within-family design that compares siblings who had different lengths of exposure to the same divorce.

We cast light on the subject in three ways. First, we examine the effect of divorce on family circumstances, including how it impacts household income, neighborhood quality, and parent proximity, clarifying how divorce affects child inputs. Second, we estimate the effect of divorce on child outcomes including adult earnings, teen birth, mortality, college residency, and incarceration. Our event studies show that divorce represents a significant turning point in children's outcomes, and our sibling comparisons show that longer exposure to divorce has a lasting impact into adulthood. Third, we quantify the role of three key mechanisms potentially driving the effects

[1] Becker called the family "the most fundamental and oldest of institutions."

[2] For example, Harris (2011) demonstrates through twin studies that shared environment explains a negligible share of outcomes. Similarly, Clark (2015) shows that outcomes between family members correlate in proportion to their shared genetic inheritance.

[3] In addition to their correlational nature, retrospective surveys suffer from recall and reporting bias, often yielding results that contradict prospective or administrative measures.

of divorce: changes in financial resources, neighborhood quality, and distance to non-resident parents. We find that each mechanism partially contributes to the effects on child outcomes.

We begin by examining how divorce reshapes family circumstances. When parents divorce, household income drops by half as families divide into separate households. This decline moves the average divorced household from the 57th percentile of the income distribution to the 36th. Households recover about half of their initial income loss over the next decade.

While income changes are significant, divorce also disrupts family stability in other ways. At the time of divorce, the probability of moving nearly triples, and families relocate to neighborhoods with 7 percent lower incomes that also offer reduced economic opportunity (Chetty et al., 2018). In the year of divorce, the distance between children and their non-resident parent increases to 5 miles at the median and over 100 miles at the mean, and this distance grows significantly over time after the divorce. About 95 percent of children are claimed by, and thus live with, their mother. Both parents adjust their labor supply after divorce as well, with mothers working 8 percent more hours and fathers 16 percent more after divorce. Half of parents remarry within five years, introducing stepparents to children's lives. Parents also add more dependents after divorce, indicating that divorce and remarriage create new family responsibilities that may diffuse parental attention and resources. These changes in family life reveal that, rather than an isolated legal shock, divorce represents a bundle of treatments—including income loss, neighborhood changes, and family restructuring—each of which might affect children's outcomes.

Next, we examine how divorce affects children over their lives, from childhood through adulthood, beginning with two contemporaneous outcomes we observe annually: teen births and child mortality. The rate of age-adjusted teen births initially dips in the year of divorce but then rises steeply over the next several years, climbing to 63 percent above pre-divorce levels (from an annual base rate of 8 teen births per 1,000). Mortality increases by 35 to 55 percent at divorce (from a base of 27 deaths per 100,000 annually) and persists at these elevated rates for at least 10 years, with no evidence of pre-trends. To put these results in perspective, the proportional effect of divorce on mortality is comparable to the cross-sectional mortality difference associated with having health insurance (Cecere, 2016).

These immediate effects raise the question of whether the impacts of divorce persist into adulthood. To measure long-term effects in a way that accounts for selection into divorce, we compare siblings within a family who had different lengths of exposure to the same divorce. Younger siblings are exposed to the divorce earlier and for longer than their older siblings, but they make useful comparisons since siblings share many common factors, including a similar initial environment and an inherited endowment from the same parents. Importantly, our counterfactual is not parents remaining in an unhappy marriage, but rather the younger child experiencing the same pre-divorce family environment for fewer years than their older sibling. This within-family design allows us to identify age-specific divorce effects while avoiding confounded comparisons across families, an approach similar to Chetty and Hendren's (2018a) study of neighborhood effects.

Using this design, we find that divorce during early childhood (ages 0–5) reduces adult income at age 25 by 9 percent, or 2.4 rank points. This impact grows over time: by age 27, the reduction in income reaches 13 percent, or 3.9 rank points as young adults enter the labor market. Including controls for birth order, birth spacing, and sex of the child has no effect on the estimates. The impact of divorce on earnings is comparable to the effect of obtaining one less year of education (Card, 1999; Zimmerman, 2014; Deming, 2022) or moving to a one-standard-deviation lower quality neighborhood for all of childhood (Chetty and Hendren, 2018b). Early childhood divorce explains approximately 15 percent of the income gap between children from unmarried versus continuously married parents.

We find similarly detrimental effects of divorce across other adult outcomes. An early childhood divorce increases teen births by 0.90 percentage points (73 percent) and mortality by age 25 by 0.39 percentage points (35 percent). These estimates align with our panel data estimates, helping to validate the within-family exposure design.[4] Children of early divorce are also 0.20 percentage points (43 percent) more likely to be incarcerated and are substantially less likely to live on a college campus in their late teens and early 20s. Notably, divorce does not significantly affect children's likelihood of marriage or employment in their mid-twenties. These estimates capture the average effect among children who experience divorce. While the average effects are similar across demographic groups (income levels, race, ethnicity, and sex), there may be important heterogeneity within these groups, arising from variation in marriage quality or divorce arrangements.

Lastly, we investigate why divorce affects children's long-term outcomes. We focus on three key mechanisms observed in our data: income loss, reductions in neighborhood quality, and parent proximity. To measure the role of income, we employ another exposure design that estimates how household income at different ages affects adult outcomes, implementing family fixed effects on the always-married sample re-weighted to match the demographics of the divorcing sample. To measure the role of neighborhood, we calculate changes in neighborhoods' causal impact using estimates from Chetty et al. (2018). To measure the role of parent proximity, we include the residential distance between children and their non-resident parent after divorce in our event study estimates.

Measuring exactly how divorce affects children's resources is challenging because standard measures can be misleading. Using the drop in household income as a proxy for a child's income loss suggests roughly a 30 percent decline over the long term. However, this measure may overestimate the reduction in children's access to food, healthcare, and activities, since children may receive resources from two households after divorce. Alternatively, using the average income of a child's neighborhood after divorce, which may more directly proxy for children's consumption levels, suggests a 7 percent decline. However, this may underestimate the reduction in overall resources if housing is stickier than other expenses. Using these two measures to bound the effect, we find that changes in family resources explain a substantial portion (10 to 44 percent) of divorce's impact on chil-

[4]This aligns with our panel data estimates, which show that divorce persistently increases mortality rates by 0.015 percentage points annually. Over 25 years, this accumulates to a 0.375 percentage point increase in mortality by age 25 ($0.015 \times 25$), very similar to the exposure design estimate of 0.39 percentage points.

dren's adult income, while explaining much less of its effect on other outcomes like teen birth (4 to 13 percent) or incarceration (less than 1 percent).

We measure the role of neighborhood changes using estimates of neighborhood effects from Chetty et al. (2018). Deterioration in neighborhood quality explains a moderate portion (16 percent) of divorce's effect on children's adult income, and a somewhat larger share of other outcomes—accounting for 17 percent of the effect on teen birth and 29 percent of the effect on incarceration.

Finally, we examine how parents' geographic distance from their children after divorce mediates divorce effects. In our event study framework, greater parental distance mediates 15 percent of divorce's effect on mortality and 22 percent of its effect on teen births. These effects likely reflect the role of distance as a proxy for parental investment, supervision, and involvement.

Together, these three mechanisms—changes in family resources, neighborhood quality, and parent proximity—explain between 25 and 60 percent of divorce's effects on children's outcomes. While our administrative data are extensive, many potentially important changes in family life remain unobserved, including parental cooperation, relationship continuity, and time investments, as well as exposure to conflict or abuse from step families (Waite and Gallagher, 2001; Daly and Wilson, 2008).

The primary threat to our exposure design is if divorce timing within a family correlates with other factors that affect children's outcomes. We investigate three possibilities. First, the birth of a child with disabilities might *cause* divorce, introducing reverse causality where low outcomes precipitate divorce rather than the reverse. Our estimates remain stable when excluding youngest children, and we find no increase in proxies for disability among younger children in divorced families. Second, other persistent shocks like job loss or mental health crises might drive both divorce and child outcomes. Three pieces of evidence contradict this possibility: we find little evidence these shocks precede separation; survey evidence shows the causes of divorce are usually long-standing; and the alignment of our panel-design and exposure-design results suggests convergent validity.[5] Third, parents might time divorce for when their younger child is better able to cope—however, this would likely cause our approach to underestimate divorce's true effect (McLanahan et al., 2013).

It is important to note that our study examines the effects of family dissolution and any persistent, proximate causes. Thus our estimates capture the bundle of changes that typically accompany divorce, including drops in household income, reductions in neighborhood quality, and an increase in parental distance.[6] Importantly, our design identifies families that experience formal divorce, and we are not able to identify similarly unhappy families that remain intact. This distinction matters, because in the absence of legal divorce, couples may produce similar changes in family arrangements, so our work does not directly serve as an assessment of rules governing the ease

[5] A related objection is that rather than divorce harming children, it is the *causes* of divorce that harm them—causes like parent alcoholism, absenteeism, or abuse. First, our panel results showing that the divorce year is a turning point for children's outcomes implies that potential confounders must have the same temporal structure as divorce: beginning at divorce onset and persisting thereafter. Second, survey evidence suggests the primary precursors of divorce—"lack of interest in one another" (48%), "poor conflict resolution" (47%), and "avoiding one another" (45%)—are neither immediate to divorce onset nor permanent (Bieber and Ramirez, 2023).

[6] Our estimates capture the bundle of persistent changes that occur at the time of divorce in our difference-in-differences analysis, and the persistent changes around the timing of divorce in our within-family exposure design.

or difficulty of obtaining a divorce, but rather the effect of family breakdown on children's outcomes.

Our findings yield several broad lessons. First, we show that divorce significantly alters children's resources and living arrangements. Second, divorce represents a turning point, with child outcomes changing meaningfully at divorce. Third, effects persist into adulthood, leading to lower income and college residence, along with higher incarceration, teen birth, and mortality. Fourth, these effects operate in part through observable mechanisms—including reduced resources, neighborhood quality, and parent proximity, which together explain 25–60 percent of divorce's total effect. Finally, because divorce has negative effects on children's outcomes and is more common among low-income families, marital instability likely perpetuates disadvantage across generations.

# 2 Background and Literature

## 2.1 Historical Context

The structure of American families has undergone a significant transformation over the past century, as illustrated in Figure 2. Before 1950, less than 2 percent of children lived with a never-married, divorced, or separated single parent. By the 2000s, this share had risen to nearly 25 percent.[7] This dramatic increase was driven by three distinct trends: (1) separation rates increased after World War II when divorce was difficult to obtain (Sorokin, 1956); (2) divorce rates rose significantly between 1960 and 1980 as laws liberalized (Wolfers, 2006; Friedberg, 1998); and (3) never-married rates rose from only 1 percent in 1965 to 13 percent by 2000 (Ellwood and Jencks, 2004).

These changes have not affected all families equally, with the transformation most pronounced among low-income families and those without a college degree. For parents with no more than a high-school degree, rates of single parenting more than tripled from 20 to 65 percent between 1950 and 2013 (Putnam, 2016). In contrast, children of college-educated parents are only two percentage points more likely to live with a single parent than they were in 1950. In addition to these educational differences, large disparities also exist across racial and ethnic lines, as shown in Figure A.1.

## 2.2 Conceptual Framework

To analyze how divorce affects children, we first review the theoretical mechanisms identified in the literature through which family structure may shape child development. Economic models highlight two primary channels through which parents influence their children's human capital development (Becker, 1981; Becker and Tomes, 1986): financial investments (e.g., schooling, nutrition, healthcare, and shelter) and direct transmission (e.g., modeling behavior, providing instruction, and conveying norms and values).

Divorce may affect child development through both channels, altering family resources as well as parent-child interactions. First, divorce divides one household into two, which reduces economies of scale and special-

[7] These data do not capture children living with stepparents after their parent remarries.

ization. These reductions can lower children's material standard of living (Duncan and Hoffman, 1985). Second, divorce may reduce parent-child contact, as children no longer reside with both parents and parents often need to work more hours due to increased financial strain (Del Boca and Ribero, 2001). These changes may affect both the quantity and quality of direct transmission.

Other disciplines have also contributed insight on how divorce may affect children's development. While economists focus on changes in household resources and time allocation after divorce, psychologists document effects on children's mental health, emotional stability, and family bonding (Suomi and Leroy, 1982; Cherlin et al., 1991; Strohschein, 2005). Sociologists have studied how divorce reshapes family function, introduces greater complexity, and creates diffuse lines of family authority (Waite and Gallagher, 2001; Cherlin, 2010). Evolutionary biologists emphasize how step-family formation can alter investment patterns in children and introduce new risks from abuse and neglect, in part because step-family members have lower biological "solicitude" for children who are not their own (Daly and Wilson, 1985, 1988; Tooley et al., 2006; Trivers, 1972; Daly and Wilson, 1994; Case et al., 2001).

## 2.3 Empirical Challenges and Literature

These theoretical frameworks suggest various channels through which divorce might affect children. However, empirically measuring these effects presents several challenges. Studies consistently document differences in outcomes between children of divorced and married parents (Coleman et al., 1966; McLanahan, 1988; Ellwood and Jencks, 2004), but establishing the causal effect of divorce on children faces three key obstacles (Harris et al., 1998; McLanahan et al., 2013). First, retrospective surveys, which form the basis of much early research, suffer from small samples and recall bias. Second, even contemporaneous panel data often contain measurement error in the timing and extent of separation (Gennetian, 2005). Third, and most fundamentally, cross-sectional comparisons are difficult to interpret since divorce likely correlates with many other determinants of child outcomes (Browning et al., 2014).

Recent work has attempted to address these challenges using quasi-experimental designs. Early evidence from Gruber (2004) exploits state-level variation in divorce laws during the 1970s, finding that exposure to unilateral divorce laws reduced children's educational attainment and adult well-being, including higher suicide risk. Subsequent studies have developed novel approaches using other sources of plausibly exogenous variation in divorce. Holm et al. (2024) use difference-in-differences around divorce events to show negative effects on children's test scores, both immediate and long-term. Hertegård (2024) finds that restricting access to divorce improves children's human capital formation on average. Frimmel et al. (2024) instrument for divorce using workplace sex composition and find that induced divorces reduce children's educational and labor market success.

Most closely related to our approach, Laird et al. (2020) use within-family variation to study divorce effects on psychiatric treatment and children's schooling outcomes, finding negative effects on secondary school enrollment, completion, and mental health. Our study builds on this work by examining both the immediate changes of

family circumstance and a broad set of adult outcomes, including college attendance, earnings, incarceration, teen births, and mortality.

# 3 Data

## 3.1 Sample Definitions

To address how divorce impacts children's long-term outcomes, we combine United States federal tax records, Social Security Administration data, and Census Bureau records to track family structure and children's outcomes. The records are linked using unique personal identifiers that remain constant over time. Personal identifiers are assigned through direct matches to Social Security Numbers or probabilistic matching using personally identifiable information such as name and date of birth. Records with Social Security Numbers have over a 99 percent match rate. While match rates vary across populations, they are especially high in our sample due to the high tax filing rates of married couples.

Our main sample includes all individuals who meet four criteria: (1) are born between 1988 and 1993, (2) are first claimed as a dependent by a married couple (including children claimed by parents filing either "married filing jointly" or "married filing separately"), (3) have a valid Social Security Number or Individual Taxpayer Identification Number, and (4) are United States citizens. We require citizenship to exclude immigrants who arrived at older ages, for whom early-life parent income is unobserved. For these children, we observe adult outcomes using Form 1040 and W-2 information from 2003 to 2018 along with 2010 Census records. Our sample frame, based on the Social Security Administration's Numident file of all Social Security Numbers ever issued, captures 93–95 percent of children with Social Security Numbers.

We identify parents using the first tax return claiming each child as a dependent. For these married couples, we identify the female filer as the mother and male filer as the father. As shown in Panel (a) of Figure 3, nearly 80 percent of children are first claimed by a married couple. To focus on likely biological or adoptive parents, we restrict to cases where the mother is aged 15–40 at the child's birth, with no age restriction on fathers.

We use Form 1040 data from 1974 to 2018 to trace out the marital histories of a child's mother and father. Tax returns require filers to indicate their status as: single, (unmarried) head of household, married filing jointly, married filing separately, or qualifying surviving spouse (widowed in the past two years). This yearly information allows us to track changes in each parent's marital status over time. Because tax returns are subject to audit and carry legal penalties for misreporting marital status, these administrative records are likely to provide accurate measures of marital status changes.

## 3.2 Variable Definitions for Parent and Family Variables

In this section, we describe our key variables used to identify divorces in the tax records and measure changes in household income and family arrangements at the time of divorce.

*Initial Divorce*. We infer family structure from parents' tax filing status. A divorce is coded when a parent transitions in the tax data from "married" (either separately or jointly) to "single" (filing single or head of household), excluding cases of widowing.[8] For divorced parents, we use the mother's filing status to determine the child's residential family structure as children predominantly reside with their mothers after divorce.

*Parent Income*. Our primary measure of parent income is total pretax household income. In years where parents file, we define income as adjusted gross income (as reported on the 1040 tax return) plus tax-exempt interest income and the nontaxable portion of Social Security and Disability Insurance benefits. In years where parents do not file tax returns or have any information returns, income is coded as zero. Income is measured before income taxes and employee-level payroll taxes, and excludes nontaxable cash transfers and in-kind benefits. All dollar amounts are expressed in 2020 dollars, adjusting for inflation using the headline consumer price index.

To obtain a proxy for parent lifetime income, we measure parents' family income (as defined above) averaged over 1996 to 2000 (similar to Solon, 1992). We use these earlier years in our sample to best reflect the economic resources of parents during children's childhood. Because we measure parent income in a fixed set of years, the age of the child when parent income is measured varies across birth cohorts. We account for this variation by conditioning on the child's birth cohort throughout the analysis.

*Parent Location and Residential Moving*. Each year that parents file taxes, we observe their residential address and Census tract. For non-filers, we use address information from their 1099 form if available. Nonfilers with no address information are coded as missing. We identify family moves when parents change addresses, measuring mobility at different geographic scales including address, block, tract, county, or state.

*Distance between Parents*. We calculate the Euclidean distance between parents' residential addresses after divorce. Thus, since children typically reside with one parent after divorce, this distance also represents the physical separation between children and their non-resident parent.

*Neighborhood Quality*. We measure neighborhood characteristics using the Opportunity Atlas, which provides tract-level data on neighborhood income, upward mobility, crime rates, and other local amenities. This allows us to track how divorce affects children's neighborhood environment.

*Step Parent Exposure*. We identify potential exposure to step parents when a previously divorced parent begins filing as "married" to someone other than their previous spouse.

*Hours Worked*. We use the American Community Survey (ACS) to measure how divorce affects parental labor supply. Whereas our tax records form a panel, the ACS complements this by providing repeated cross-sections of hours worked for both mothers and fathers.

*Income Sources*. We also use the ACS to decompose parental income sources. While tax records provide

[8] Under U.S. tax law, married couples almost always benefit financially from filing as married (either jointly or separately) rather than as single individuals. Filing jointly typically provides access to higher standard deductions, certain tax credits, and more favorable tax brackets compared to filing as single. While married filing separately status may be chosen in specific circumstances (such as when one spouse has significant deductions or tax liabilities that could affect the other), it would be extremely rare for legally married couples to file as "single," as this would constitute misrepresentation to tax authorities. Our measurement approach may miss couples who are married but incorrectly file as single, though this scenario is unlikely given the financial incentives and potential penalties for misreporting filing status. We further validate our identification of divorce by examining address changes in the tax data, confirming that parents who transition from married to single filing status typically also begin filing from different addresses.

total income through adjusted gross income, the ACS separately reports wage income, welfare income, and "other income." The other income category allows us to measure typical child support payments, which are not taxable and thus not visible in the tax records.

*Parent Living Arrangements*. The ACS also provides detailed information on household composition. Using this data, we measure how divorce affects household size, the number of co-resident children, and whether individuals live with spouses, parents, roommates, romantic partners, siblings, or alone.

### 3.3 Variable Definitions for Children's Outcomes

Next, we define children's adult outcomes across a range of economic, educational, and life events. These variables are particularly pertinent for the second part of our analysis that estimates the long-term effect of divorce on children's later life outcomes.

*Income*. We measure children's annual income at ages 23–27. In our primary measure, we use household income, which includes income earned by spouses if the individual is married. Family income comprises adjusted gross income plus tax-exempt interest and nontaxable Social Security and Disability Insurance benefits. For robustness, we also examine individual income, calculated from W-2 wages, unemployment insurance benefits, Social Security and Disability Insurance payments, and half of the household's self-employment income reported on the 1040 form. Analysis using either family or individual income yields similar results.

*Employment*. We code a child as employed at a given age if they had a W-2 form filed that year.

*College Residency*. We measure college residency using the 2010 Census, coding students as residing at a college if they lived in a dormitory on Census day in 2010.

*Teen Birth*. We code a teen birth when an individual claims a dependent whose age indicates the dependent was born when the filer was aged 13–19. While tax data cannot definitively establish biological parenthood, this measure likely captures actual teen births for two reasons. First, teen births are much more common than teen adoptions (Ventura et al., 2006; Shuman and Flango, 2013). Second, most adoptions occur in early childhood (Korhonen, 2024).

*Marriage*. We code a child as married at a given age based on their tax filing status, similar to our approach for parents. Nonfilers are coded as single because linked Current Population Survey and tax data show that the vast majority of nonfilers in this age range are single (Cilke, 1998).

*Incarceration*. We measure incarceration using the 2010 Census, which records whether an individual was in prison on Census day.

*Mortality*. We observe children's mortality through 2018 using Social Security's Numident file.

### 3.4 Summary Statistics

Panel A of Table 1 reports summary statistics for our main analytic sample: children first claimed by married parents who divorced by 2018. Panels B and C present analogous statistics for children first claimed by

unmarried parents or by parents who remain married throughout the observation window, respectively. Within our sample, approximately one-third of children experience parental divorce. Children whose parents divorce typically come from families with economic characteristics between those of always-married and unmarried parents. For example, median parent income is $46,550 for divorced families, compared to $78,150 for always-married families and $17,730 for unmarried families. Similarly, divorced families have a mean income rank at the 49th percentile in 2000, while always-married and unmarried families rank at the 67th and 27th percentiles respectively. These systematic differences in family resources underscore concerns about cross-sectional comparisons between families.

Children's adult outcomes follow similar patterns to parent characteristics across family structures. Children who experience parental divorce have median outcomes between those of children from always-married and unmarried families. Their mean income is $27,520 (51st percentile), 18 percent are married at age 25, and 1.5 percent had a child as a teenager. The incarceration rate of 0.46 percent in 2010 is three times higher than children from always-married families but one-third the rate of children from unmarried families. These family patterns vary substantially by race and ethnicity: White and Asian children are overrepresented in always-married families, while Black and Hispanic children are more likely to experience divorced and unmarried families. Black children make up nearly half of all children born to unmarried parents.

Family characteristics are strongly associated with divorce rates. Figure 4 shows how divorce rates vary by parent income rank and race. The data includes children born between 1988 and 1993 who were first claimed by married parents. Panel (a) plots the relationship between parent income and divorce, adjusting for county and race fixed effects while adding back the average divorce rate for interpretation.[9] Divorce rates decline sharply with income: children at the 20th percentile of parent income are more than 30 percentage points more likely to experience divorce than children in the top quintile. Panel (b) shows divorce rates by race and ethnicity, adjusting for county and income percentile fixed effects and adding back the average divorce rate to aid interpretation. Divorce rates vary substantially across groups: 17 percent for Asian children, roughly 30 percent for White and Hispanic children, and 45 percent for Black children. These figures highlight the large differences in the likelihood of experiencing a parental divorce for children of different social-economic status, race, and ethnicity and the potential for divorce to perpetuate economic disadvantage.

# 4 Event Studies around Divorce

## 4.1 Changes to Families and Resources

We begin by examining how divorce affects family life, documenting changes in household arrangements and economic circumstances. To do this, we present event studies of key family outcomes around divorce, including household income, residential moves, neighborhood quality, the entry of stepparents, parental work hours, and

[9] The bottom 20 percentiles are omitted due to reporting zero family income.

living arrangements.

First, divorce creates physical distance between parents, with implications for children's access to both parents. In Figure 5, we present the distance between parents around divorce. Prior to separation, parents live together.[10] At divorce, the median distance between parents rises to 4 miles in the year of divorce and grows to over 10 miles over the following decade. The mean distance between parents starts at just over 100 miles at divorce, growing to over 200 miles after ten years, suggesting that a significant fraction of divorces involve long-distance relocations. These substantial and growing distances between parents likely create significant barriers for children maintaining relationships with both parents, especially the non-resident parent.

Figure 6 shows a large drop in household income at divorce as one household splits into two. We track household income for mothers, who typically maintain primary custody of children after divorce. Prior to divorce, average household income is between $90,000 and $100,000 (median income between $60,000 and $70,000). At divorce, household income falls by more than half to $42,000, reflecting the division of the couple's combined resources into two households. While income gradually recovers over time, reaching $60,000 after ten years, it remains roughly 30% below its pre-divorce level a decade after divorce. This pattern appears not just in absolute dollars but also in relative economic position: households fall from the 57th percentile to the 36th at divorce, and even a decade later remain at the 43rd percentile.

Tax records may understate post-divorce household income by omitting two major non-taxable income streams: child support payments and welfare benefits.[11] In Figure 7, we use ACS records to show that these non-taxable income sources are substantial and differ markedly between mothers and fathers. Panel (a) reveals that mothers' "other" income increases sharply from about $1,000 to nearly $4,000 after divorce, likely reflecting child support. This closely matches the just over $2,500 received on average by the custodial parent in 1997 (Case et al., 2003). These payments gradually decline over time, presumably as children age out. Meanwhile, fathers' "other" income remains stable around $1,000, consistent with them typically being the non-resident parent. Similarly, Panel (b) demonstrates that mothers' welfare income doubles from about $30 to $60 per month, whereas fathers' welfare receipts show only a modest increase before stabilizing at a lower level. Combined, these increases in non-taxable income offset less than 10 percent of the drop in average household income seen in Figure 6.

These persistent declines in household resources—even accounting for non-taxable income streams—may significantly affect child development. The substantial reduction in financial resources available to children post-divorce potentially constrains investments that would otherwise contribute to children's cognitive and non-cognitive human capital accumulation.

At divorce, parents not only lose household income but also economies of scale. The result is significant financial pressure since each must pay for the fixed costs of a household (a kitchen, a bedroom, furniture, etc.) with a portion of their original income. In addition, one parent is usually required to pay child support and sometimes

[10] We do not observe separate addresses for couples filing jointly before divorce. The figure assumes that the distance between parents is zero before divorce, but some couples may separate in the years leading to divorce.

[11] Prior to 2019, alimony was required to be reported as taxable income by the recipient.

alimony. These additional financial pressures may change parents' labor supply decisions. In Figure 8, we present hours worked among employed individuals. We find that mothers work 8 percent more hours after divorce, and fathers work 16 percent more after divorce. Mothers' hours initially rise and trend back toward their pre-divorce level. Fathers' hours, by contrast, continue to increase over the decade after divorce. These substantial increases in work hours likely reduce time available for children.

In addition to the financial changes for families, event studies on migration patterns show that children are also much more likely to move residence after a divorce. Panel (a) of Figure 9 tracks the fraction of children who change residences each year around divorce. The figure shows the fraction of children who moved that year from their original address, Census block, Census tract, county, and state. A few years before divorce, residential mobility is steady with about 13 percent of children moving addresses and 5 percent moving counties annually, aligning with those documented by Molloy et al. (2011) and Hyatt et al. (2018). The move rate increases substantially to 35 percent in the year of the divorce and stays elevated above baseline for the next ten years. Move rates begin to rise one or two years prior to the divorce. This suggests two potential moderators: some couples may separate prior to divorce, requiring a move, or families at risk of divorce may experience adverse events that trigger residential moves. Consistent with Oreopoulos et al. (2008), we do not observe an increase in layoffs or a decrease in household income prior to divorce, suggesting these anticipatory moves are the result of separation (see Figure A.2).[12]

Beyond high move rates, divorcing families also move to lower-quality neighborhoods, as shown in Panel (b) of Figure 9. This downward shift in neighborhood quality likely reflects the financial strain of divorce: parents must maintain two separate households with less combined income, forcing many to seek more affordable options. Three to five years prior to divorce, children typically live in Census tracts with above-average household income, around the 57th percentile. However, neighborhood quality begins declining two years before divorce (when separation is likely) and ultimately falls by seven percent (four percentiles). Even a decade later, children's neighborhoods remain significantly below their pre-divorce quality. While household income drops may overstate the actual decline in child investment—since children receive support from both households and parents may prioritize child spending over personal consumption—the decline in neighborhood quality may provide a more concrete measure of reduced resources available to children, as it captures a tangible decrease in their standard of living.

In the Appendix, we present additional event studies documenting how family arrangements change around divorce. In Figure A.3 we show the cumulative fraction of children who have a stepmother or stepfather enter the family each year around divorce. By construction, no stepparents are present in the years prior to divorce. Following divorce, stepparents quickly become part of the children's family dynamic. Within five years of divorce, about 50 percent of children have a stepmother and 40 percent have a stepfather. By ten years post-divorce, the

[12] While Charles and Stephens (2004) reports increases in divorce rates following male job loss among newly married couples, they find no such relationship for couples married more than six years. Our sample frame of divorces among parents with children is much more likely to represent these longer-term marriages, consistent with our findings.

fraction with stepparents grows to 60 percent for stepmothers and 55 percent for stepfathers. The slightly higher rate for stepmothers reflects that fathers tend to remarry more quickly than mothers after divorce.

Additionally, we use the American Community Survey to better understand who parents live with after divorce. We present living arrangements in Figures A.4 and A.5. About 60 percent of parents live without other adults immediately after divorce. This living arrangement is more common among mothers, who are approximately 10 percentage points more likely than fathers to live without other adults following divorce. A year after divorce, we find that about 10 percent of fathers live with an opposite-sex non-relative, likely a romantic partner, compared to 7 percent for mothers.[13] Another 6 percent of fathers live with same-sex roommates compared to 4 percent for mothers. The rate at which divorcing individuals live with their parents doubles at divorce from 4 percent to 8 percent, with similar rates for men and women.

While household size initially falls at divorce as couples separate, the decline partially rebounds in the following years as parents remarry and take on new dependents. In Figure A.6, we track household size and the number of child co-residents for both mothers and fathers. Panel (a) shows that household size steadily falls before divorce as children grow up and leave home. At divorce, household size drops by approximately one person, presumably by the loss of a spouse. However, rather than continuing to decline as pre-divorce trends would predict, household size gradually increases over the next decade for both mothers and fathers. Panel (b) reveals a similar trajectory for child co-residents, with the number of co-resident children trending downward before divorce but then stabilizing after divorce as parents add new dependents through remarriage and stepchildren. By ten years after divorce, mothers live with 0.5 more children than predicted based on their pre-divorce trend, representing a 157 percent increase relative to the counterfactual implied by the pre-divorce trend. This pattern suggests that parent attention and resources may become more diffuse after divorce, as parents care for additional dependents. This finding connects to a large literature showing that stepparents have lower intrinsic interest in non-biological children (a phenomenon biologists call solicitude), and even biological parents often decrease their investment in children from prior relationships when forming new ones, potentially to satisfy new partners' priorities (Anderson et al., 1999, 2001; Hofferth and Anderson, 2003; Daly and Wilson, 2008; Ganong and Coleman, 2017).

Taken together, these findings render a wide-angle picture of how divorce reshapes children's lives through both financial and environmental channels. The substantial decline in household resources coincides with increased residential mobility, declining neighborhood quality, changes in parental work patterns, and evolving family structures through stepparent entry. Children face not only changes in their family structure, but also widespread disruption to their material and social environments. Thus divorce represents not a single intervention, but a bundle of treatments that might affect children's outcomes.

[13] There is a large literature on the effect of unrelated cohabitors living with children (Daly and Wilson, 1988; Thomson et al., 1994; Manning and Lamb, 2003; Ginther and Pollak, 2004; Brown, 2004).

## 4.2 Estimating Contemporaneous Divorce Effects from Panel Data

Having documented the substantial changes in children's environments around divorce, we now turn to estimating the effects of divorce using panel data methods. We focus on two key childhood outcomes that we observe annually: teen birth and mortality. These outcomes enable us to implement an event study design to examine how children's outcomes change around divorce. We estimate this design using the following equation:

$$y_{it} = \sum_{k=-m}^{M} \eta_1^k 1(\tau_t = k) + \alpha_{it} + \lambda_i + \varepsilon_{it} \tag{1}$$

in which an outcome $y_{it}$ (an indicator for teen birth or mortality) for child $i$ in year $t$ is regressed on event-time indicators for a parental divorce and control variables. The coefficients of interest, $\hat{\eta}_1^k$ (for $k \in [-m, M]$), capture the evolving effect of divorce over time. The coefficients $\eta_1^k$ for $k \in [-m, -1]$ capture the time path before divorce—the pre-divorce trends—while coefficients $\eta_1^k$ for $k \in [0, M]$ capture the dynamic effects after divorce. The control variables include age fixed-effects ($\alpha_{it}$) that account for the age-specific patterns in teen births and mortality risk, and cohort fixed-effects ($\lambda_i$) that capture birth-year differences in risk profiles. The error term represents unobserved individual shocks that are assumed uncorrelated with treatment timing.

The key identifying assumption in this research design is that there are no confounding factors driving differential trends around the time of divorce, beyond the "divorce bundle" of changes in household income, neighborhood quality, and other family dynamics. One potential concern is that divorces might be triggered by economic shocks like layoffs, which could independently affect child outcomes. However, our analysis of tax records and ACS data reveals no systematic relationship between job loss and divorce timing (see Figure A.2). Additionally, serious confounding factors like homelessness, starting school, or incarceration appear to precede very few divorces in our sample, suggesting these factors are not driving our estimated effects.

Panel (a) of Figure 10 presents the results for mortality. This figure plots residualized child mortality rates around divorce, after controlling for age and cohort fixed effects, and adding back the mean mortality rate to facilitate interpretation. Prior to divorce, the average mortality rate remained stable between 25 and 30 deaths per 100,000 children per year. This is slightly lower than the 33.9 deaths per 100,000 children aged 1 to 19 reported by the Centers for Disease Control in 2000.[14] Following divorce, we observe a sharp and persistent increase in mortality of 10 to 15 additional deaths per 100,000 children annually (35 to 55 percent) beginning in the year after divorce and continuing throughout the observation period. It is notable that child mortality shows no increase before divorce, suggesting that elevated mortality risk is a consequence of divorce rather than a factor causing marital dissolution. When looking at subgroups, such as by sex and age, we find similar proportional effects in each group (see Figure A.7). The fact that we observe higher death rates in young children suggests the role of reduced parental supervision which could increase accident risk. For teenagers, the effects likely involve both supervision changes and potential psychological impacts that increase risk-taking behaviors and mental health

[14] Mortality rates for different ages, years, and causes can be found in the National Center for Health Statistics Compressed Mortality File on Centers for Disease Control's WONDER Online Database at https://wonder.cdc.gov.

challenges.

While we do not observe the cause of death in the Numident file, aggregate data from the Centers for Disease Control provide context about leading causes of child and adolescent mortality during our study period (Cunningham et al., 2018; Goldstick et al., 2022). In 2000, injury-related causes accounted for 63 percent of deaths, with motor vehicle crashes comprising 30 percent of total deaths and firearm-related injuries accounting for 12 percent. Among firearm deaths, approximately 59 percent are homicides and 33 percent are suicides.[15] The third leading cause is pediatric cancer at 8 percent. Drowning, suffocation, and congenital abnormalities each account for approximately 5 percent of deaths.

With vehicle fatalities being the leading cause of death with 10.1 deaths per 100,000 children aged 1 to 19 in 2000, one possible mechanism for the increased mortality could be additional driving time or riskier driving. This additional drive time could come from shuttling children between parents' homes, additional road trips for separate family vacations, or additional commutes for childcare. Alternatively, riskier driving could stem from a higher fraction of drive time with a young driver, less parental supervision for wearing a seat belt, or more distractions as a single-parent driver.[16]. To fully account for the 10 to 15 additional deaths per 100,000 after divorce, drive time/miles would need to increase by 100 to 150 percent (assuming equal fatality risk for all time/miles driven). Alternatively, risky driving would need to raise fatality rates per mile by 2.0–2.5 times to account for the increased mortality after divorce.

Two calculations can give a better sense for how much additional vehicle miles would be required to fully explain this increase in mortality. First, the National Highway Traffic Safety Administration reported 1.5 deaths per 100 million miles driven in the United States in 2000 for all vehicle occupants and 1.1 for children aged 1 to 20 (NHTSA, 2001). Using this fatality rate, a child would need to travel an additional 9,200 to 13,700 miles per year, an additional 25 to 38 miles per day to fully explain the mortality increase. Second, the National Household Travel Survey (USDT, 2001) finds that the average miles driven in 2000 was 14,500 miles (with kids aged 5-14 taking 24 percent fewer trips per day compared to adults aged 25-54). Using these baseline miles (and assuming the same fatality rate per mile for additional miles), a child would need to travel an additional 11,000 to 16,500 miles per year, or 30 to 45 miles per day. While increased vehicle miles alone are unlikely to fully explain the mortality effect, modest increases combined with riskier driving conditions could explain a meaningful portion of the increased mortality after divorce.

Panel (b) of Figure 10 provides a similar analysis of teen birth rates. Before divorce, teen births are steady at approximately 7 births per 1,000 girls each year, with a small dip to 6 teen births the year before divorce. At divorce there is a temporary decline to just over 4 teen births per 1,000 girls, possibly the result of children's social networks being disrupted by a change in residence. After divorce, teen births begin to climb, reaching 13 births

[15] The remainder are considered accidental deaths.

[16] The 1994 National Occupant Protection Use Survey conducted by the Department of Transportation found that 58 percent of children aged 5-15 wore a seatbelt (Bondy and Glassbrenner, 2001). This increased to 65, 72, and 66 percent in the 1996, 1998, and 2000 National Occupant Protection Use Surveys, respectively. In addition, nearly 6 out of 10 children under the age of 15 killed in a motor vehicle crash in 2000 were not restrained by a seat belt or child safety seat (NHTSA, 2000). Analysis by the National Highway Traffic Safety Administration reports that seat belts, when used correctly, reduce the risk of fatal injury to occupants in passenger cars by 45 percent (Kahane, 2000)

per 1,000 girls by six years after divorce—a 63 percent increase from pre-divorce levels.

These results reveal substantial effects of divorce on children's outcomes. The absence of pre-trends in both outcomes supports a causal interpretation. The magnitude of the effects—a 35 to 55 percent increase in mortality and up to a 63 percent increase in teen births—underscores how divorce can dramatically reshape children's outcomes, potentially through changes in resources, supervision, and family dynamics.

One important insight from these results is that divorce itself appears to be an important turning point in children's lives. Outcomes show little deterioration leading up to divorce, but there is a significant break in each series at the time of divorce. If some confounding factor is at play—layoff, health issue, drug abuse, etc.—it would require the same temporal structure as divorce to explain these effects: coinciding with the timing of divorce and being persistent thereafter. This requirement limits the range of possible alternative explanations for our results.

# 5 Estimating Divorce Effects on Adult Outcomes

Our objective is to estimate how divorce affects children's long-term outcomes, including income, college going, incarceration, mortality, and teen births. To do this, we exploit variation in children's ages at the time of their parents' divorce, comparing outcomes between siblings within the same family with different lengths of exposure to divorce. In this section, we outline our estimation strategy for identifying the causal effect of divorce on these long-term outcomes. For this analysis, we focus on children whose parents were married when initially claimed in tax records and subsequently divorced. Our identification strategy builds on Chetty and Hendren (2018a), which uses similar within-family variation to study neighborhood effects on children's outcomes.

## 5.1 Definition of Divorce Effects

To formalize our empirical approach, consider an experiment where we randomly assign age $m$ at which children experience parental divorce. The best linear predictor of a child's long-term outcome $y_i$ in this experimental setting is:

$$y_i = \alpha_m + \beta_m D_{im} + \zeta_i \tag{2}$$

where $D_{im}$ indicates parental divorce when the child is age $m$, and the error term, $\zeta_i$, captures family, individual, and other determinants of children's outcomes. Random assignment ensures $\zeta_i$ is orthogonal to $D_{im}$, so OLS estimation of Equation (2) yields a coefficient $\beta_m$ that represents the average effect of parents divorcing at age $m$. When the outcome $y_i$ is measured at age $T$, we have $\beta_m = 0$ by construction for all $m > T$, since future divorces cannot affect current outcomes without anticipation effects.

We estimate divorce effects by comparing children who were at different ages when their parents divorced. Estimating Equation (2) in observational data and across families yields:

$$b_m = \beta_m + \delta_m \tag{3}$$

where $\delta_m = \frac{cov(\zeta_i, D_{im})}{var(D_{im})}$ captures selection bias through the covariance between unobserved inputs and parental divorce. Under these conditions, identifying the effect of divorce would not require divorces to be orthogonal to children's potential outcomes. Instead, the divorce timing would need to be orthogonal to these outcomes. In other words, we would need to assume that selection effects do not vary with the child's age for divorce: $\delta_m = \delta$ for all $m$. However, the error term, $\zeta_i$, likely correlates with divorce timing across families. For example, parents who remain married longer may have unobserved characteristics—such as greater wealth, perseverance, or human capital—that independently improve children's outcomes. Therefore, estimating Equation (2) without family fixed effects yields a regression coefficient that may overstate the effect of divorce. As such, our main analysis includes a family fixed effect and only compares siblings within a family.

When only comparing siblings by estimating Equation (2) with a family fixed effect, the required assumption is substantially weaker. Now we assume that selection effects do not vary across the siblings' ages within a family. This means that while divorce timing is potentially endogenous across families, we only need to assume that parents do not systematically time their divorce based on the relative ages of their children interacted with their children's potential outcomes. This assumption allows for the possibility that parents who divorce when their children are older are different from those whose children are younger, but it does require that the timing of divorce does not vary when younger siblings have systematically worse unobservable characteristics. This assumption is partially supported by survey evidence showing that divorce timing is primarily driven by relationship dynamics that are independent of the children's relative ages or characteristics (Bieber and Ramirez, 2023).[17]

Using this assumption, we can obtain consistent estimates of divorce effects at each age, $\beta_m = b_m - b_{T+1}$, from Equation (2) even in observational data because the selection effect, $\delta$, is netted out. For example, if income is measured at age 25, the estimated "effect" of divorce at ages over 25 cannot have a causal effect on children's outcomes at age 25.[18] Therefore, $b_m = \delta$ for $m > T$. These identified parameters, $\beta_m$, reveal how divorce impacts children differently depending on their age at divorce.

## 5.2 Baseline Specification for Estimating Divorce Effects

Our research design addresses two fundamental identification challenges. First, families that divorce likely differ systematically from those that remain intact on unobservable dimensions. We address this by solely focusing on children whose parents were married when initially claimed in tax records and subsequently divorced. This approach allows us to use variation in the length of exposure to divorce rather than comparisons between divorced and married families. Second, the timing of divorce may correlate with unobserved family characteristics—families that divorce when children are young could differ from those that divorce later. We overcome this challenge by comparing siblings within a family who were exposed to the same divorce for different durations. As shown in the

[17] A recent survey found that divorced individuals cited relationship-focused reasons as primary precursors to divorce: "lack of interest in one another" (48%), "poor conflict resolution" (47%), and "avoiding one another" (45%) (Bieber and Ramirez, 2023).

[18] This may not hold if factors that influence divorce (e.g., financial hardship, negative parental health shocks, separation, etc.) predate the timing of divorce and also impact children's outcomes. In that case, the estimated selection effect would be overestimated and our estimated exposure effect would be an underestimate of the true effect.

previous section, this within-family design controls for differences across families with different divorce timing.

We implement this within-family comparison using the following specification which estimates the effect of divorce for each age between 1 and 27:

$$y_{ijc} = \sum_{m=1,\neq 25}^{27} b_m D_{ijm} + \alpha_j + \gamma_c + \Gamma X_i + \varepsilon_i \tag{4}$$

where $y_{ijc}$ denotes the adult outcome for child $i$ in family $j$ from birth cohort $c$, $D_{ijm}$ indicates whether child $i$'s parents divorced when the child was age $m$, $\alpha_j$ is a family fixed effect, $\gamma_c$ is a birth cohort fixed effect, and $X_i$ is a vector of controls for sex, birth order, and birth spacing. Our main adult outcomes include income measures (rank and log income) at age 25, as well as indicators for teen birth, college residency (2010 Census), incarceration (2010 Census), mortality, and marital status at age 25. We restrict our analysis to ages 27 and below due to data availability and to ensure sufficient birth cohorts for comparison. Equation (4) serves as an observational analog to the experimental specification in Equation (2).

The coefficients $b_m$ capture the effect of a parental divorce at each developmental age from 1 to 27. We normalize relative to divorce at age 25 by omitting that coefficient. While all comparisons are within-family, no single family in our records has both a 1-year-old and a 25-year-old at the time of divorce. Rather, the relative magnitudes of these coefficients are identified from overlapping within-family comparisons across the age distribution. For all estimates, standard errors are clustered at the family level.

For each outcome, we plot the coefficients $b_m$ to reveal how divorce effects vary with children's age at first exposure. These event studies offer two key insights. First, they identify whether there are periods of special sensitivity to parental divorce. Second, they provide a test of causality: divorces that occur after outcomes are measured (e.g., divorces at age 27 for outcomes measured at age 25) should have no effect, serving as a placebo test.

# 6 Effects of Divorce on Adult Outcomes

In this section, we estimate the causal effects of divorce on children's adult outcomes. Our analysis uses data on 4.5 million children born between 1988 and 1993 who were first claimed by married parents that subsequently divorced, including over 1 million sibling pairs. Using the empirical framework outlined above, we estimate Equation (4) to examine impacts on children's income, teen births, college residency, incarceration, mortality, and marriage outcomes. We demonstrate the robustness of our results across different specifications, variable definitions, and exposure measures. We then explore effect heterogeneity by race and ethnicity, family income, and sex before addressing potential threats to identification.

## 6.1 Divorce Effects on Income

We begin by examining how divorce affects children's household income rank at age 25, estimating Equation (4) with age at divorce grouped into five-year bins. Table 2 reports the coefficients $\hat{b}_m$ for each five-year age interval, with effects measured relative to divorce after age 25. The full set of age-specific estimates are shown in Figure 11 and discussed in Section 6.2.

Column (1) of Table 2, which includes only birth cohort fixed effects, shows that children experiencing divorce between ages 0–5 have adult income ranks 6.7 percentiles lower than those whose parents divorce during adulthood ($\hat{b}_m = -0.067$). As outlined above, this estimate combines both the causal effect and selection effects from family characteristics associated with divorce timing. This effect declines monotonically with age at exposure, falling to 1.2 percentile points for divorces between ages 21–25.

Column (2) of Table 2 adds family fixed effects, limiting identification to comparisons between siblings who experienced divorce at different ages. This within-family design uses the much weaker assumption that parents do not systematically time their divorce based on the relative ages of their children interacted with their children's potential outcomes. With family fixed effects, the coefficient for divorce between ages 0–5 falls in absolute value to $-0.024$, though it remains highly significant. These estimates indicate that divorce exposure between ages 0–5 reduces children's income rank by 2.4 percentile points. This effect declines monotonically with age at exposure, falling to a statistically insignificant $-0.5$ percentile points for divorces between ages 21–25.

Columns (3)–(5) add controls for sex, birth order, and birth spacing between siblings. The 2.4 percentile point reduction from early childhood divorce remains stable across these specifications. Column (5), with the full set of controls, is our preferred specification that we use in all subsequent exposure estimates.

Although income rank offers several advantages (Chetty et al., 2014c), our choice of measuring outcomes at age 25 is somewhat arbitrary. We examine the robustness of our results across different income measures and ages of measurement. Table 3 explores the robustness of our findings using different income measures, all at age 25, estimated using our preferred specification with full controls from Column (5) of Table 2. Columns (1) and (2) report effects on family and individual income (in dollars) at age 25. Early childhood divorce (ages 0–5) reduces both measures by approximately $2,500, statistically significant at the 5 percent level. Relative to mean family income of $36,290 (median $27,870), this represents a 7.8 percent decline. The effect declines monotonically with age at divorce, falling to a statistically insignificant $676 (1.8 percent) for divorces between ages 21–25.

The magnitudes and age patterns of effects are similar when using log income (Columns (3) and (4)), which show approximately 8 percent reductions for early divorce exposure. Columns (5) and (6) confirm that family and individual income rank measures yield nearly identical estimates. Finally, Column (7) shows that divorce has small and insignificant effects on employment (see Figure A.8), indicating that the income effects operate through wages or hours rather than through employment status.

Table 4 examines how the effects of divorce vary with the age at which income is measured. Using a balanced sample, we estimate effects on children's family income rank at ages 23 to 27. We find no significant

effects at ages 23 and 24 across any age-at-divorce interval. However, starting at age 25, effects emerge for early childhood divorce and grow larger through age 27.

At age 27, the effect of experiencing a divorce between ages 0–5 reduces a child's income rank by 3.9 percentiles, nearly 50 percent larger than at age 25. The growing magnitude with age suggests our main estimates at age 25 will likely understate the long-run income effects of divorce. In addition, this age pattern aligns with previous research finding that income effects emerge in the late rather than early 20s (Chetty et al., 2014a, 2016a). The delayed impact likely reflects that many potential high-earners have temporarily low incomes in their early 20s while pursuing postsecondary education. While the effects of early childhood divorce grow between ages 23 and 27, effects remain near zero and insignificant for those experiencing divorce after age 20.

## 6.2 Divorce Effects on Additional Adult Outcomes

Beyond labor market outcomes, we examine divorce effects on other key adult outcomes including college residence, marriage, teen birth, incarceration, and mortality. Figure 11 plots the effect for each age at divorce, while Table 5 reports effects by five-year age intervals. The results show that divorce during early childhood increases the likelihood of teen birth, incarceration, and mortality, reduces college residency, and has minimal effect on marriage rates by age 25.[19]

Panel (a) of Figure 11 plots the estimated $b_m$ coefficients from Equation (4) for children's family income at age 25. Similar to Table 3, experiencing a divorce in the first 5 years of life reduces a child's income rank at age 25 by more than 2 percentiles, with the largest reduction occurring for divorces at age 1. This effect declines fairly linearly with age. There appears to be little to no effect of divorce after approximately age 18. Early parental divorce explains about 14 to 18 percent of the income gap between the children of unmarried and always-married parents. The divorce effect—an 8 to 13 percent decrease in income at ages 25 and 27, respectively—is comparable to losing a year of education (Card, 1999; Zimmerman, 2014; Deming, 2022) or moving to a one-standard-deviation lower-quality neighborhood for all of childhood (Chetty and Hendren, 2018b).

Panel (b) of Figure 11 plots the estimated $b_m$ coefficients from Equation (4) for teen births. This figure shows that experiencing a parental divorce before age 15 increases the likelihood of teen birth by approximately 0.8 percentage points, with stable and highly significant effects throughout early childhood. The effect drops sharply after age 15 and becomes indistinguishable from zero by age 20. The absence of effects for later divorces suggests minimal selection bias in our within-family estimates. Relative to the baseline teen birth rate of 1.2 percent, early divorce exposure increases teen births by roughly 60 percent. Column (2) of Table 5 confirms these patterns using five-year age intervals. The effect of divorce on teen births is an order of magnitude larger than the effect of county-level access to family planning programs or expanded access to long-acting reversible contraceptives on teen births (Kearney and Levine, 2009; Bailey, 2012; Lindo and Packham, 2017). Moreover,

[19] In addition to the age limitation (most individuals don't marry by age 25), our sibling design methodology may not fully capture divorce effects on marriage outcomes. This is because our approach better identifies effects based on when parents divorce rather than whether parents divorce at all. The latter may be more relevant for intergenerational marriage patterns.

early childhood divorce explains approximately 50 percent of the teen birth rate gap between children of unmarried and always-married parents.

In addition, Panel (c) plots the divorce effects by age on living in a college dormitory, measured when our cohorts are 17 to 22 years old in the 2010 Census. Despite some volatility in early childhood estimates, experiencing a divorce before age 18 reduces college residency by approximately 4 percentage points. Around age 18 the effect starts to diminish and becomes indistinguishable from zero around age 25. The 4 percentage point reduction in college residency should be interpreted relative to the low baseline rate of 9 percent. Thus, divorce reduces college residency by over 40 percent, comparable to the relative magnitude of the teen birth effect. This effect could come from either being less likely to attend college or, conditional on attending college, being more likely to live at home or live off campus. Unlike teen birth, even in the early twenties, divorce could affect college residency by changing parents' disposable income and incentives for parental cooperation.[20] Similar to teen births, early childhood divorce explains approximately half of the college residence gap between children of unmarried and always-married parents.

Divorce effects on incarceration follow an inverted U-shaped pattern as shown in Panel (d) of Figure 11. Effects are small but positive for divorces in the first 5 years of life, then increase substantially between ages 5 and 20. Experiencing a divorce between the ages of 5 and 20 raises incarceration probability by 0.15 to 0.28 percentage points. Given the baseline incarceration rate of 0.46 percent in the 2010 Census, these effects represent a 33 to 60 percent increase in incarceration likelihood, again comparable to the relative magnitudes found for teen births and college residency. However, unlike those outcomes, early childhood divorce explains only 15 to 20 percent of the incarceration gap between children of unmarried and always-married parents. The effect diminishes after age 20 and quickly becomes indistinguishable from zero.

Panel (e) shows that the effect of divorce on mortality (measured through 2018) declines linearly with the child's age at divorce. The effect is largest in early childhood, reaching 0.5 percentage points when divorce occurs in the first 5 years of life. Given the baseline mortality rate of 1.1 percent, experiencing a divorce before the age of 5 increases the risk of mortality by approximately 45 percent, similar to our event study estimates on mortality. The effects are also comparable to the relative magnitudes we found for teen births and college residence. Moreover, early childhood divorce explains 54 percent of the mortality gap between children of unmarried and always-married parents—again mirroring our findings for teen births and college residence. The effect on mortality declines linearly with age, becoming statistically insignificant by the late teens. While causes of death are not available in our data, as discussed previously, increased drive time and risk associated with split households may play a role.

Lastly, Panel (f) shows no significant effect of divorce on marriage rates at age 25. Our estimates are precise

[20]Divorce in early adulthood can potentially affect college residency through three channels. First, divorce reduces household resources through lost economies of scale, since each parent must maintain their own residence. Previous research has documented the importance of household income for college attendance (Bulman et al., 2021). Second, divorce creates potential coordination failure in financing college education: while both parents benefit if their child attends college, each may strategically wait for the other to contribute more. Additional disagreements about college choices (major, college, housing, etc.) can further complicate these negotiations. Third, divorce often leads to estrangement from one or both parents, potentially reducing children's ability to elicit financial support.

enough to rule out effects larger than 2 percentage points in either direction. However, with only 18 percent of our sample married by age 25, effects might emerge at later ages when a larger share of the population has married. In addition, it is unclear whether being married by the age of 25 has a positive or negative impact on individuals' lifetime utility. While there are no effects on marriage by 25, our estimates show that experiencing a divorce has detrimental effects on a wide array of long-term outcomes, with the largest impacts occurring in early childhood.

### 6.3 Divorce Effects by Group

The previous analysis estimated the average effect among all children who experience a parental divorce. Here we examine how divorce effects vary across three characteristics: family income tercile, race and ethnicity, and children's sex. For each subgroup analysis, we estimate Equation (4) using five-year age bins interacted with subgroup indicators, maintaining the full set of controls from Column (5) of Table 2.

Table A.1 shows divorce effects by income tercile. Overall, the effects of divorce are very similar, though less precise, for all three income terciles. However, there is one notable exception: college residency. The effect for residing at a college dormitory is nearly twice as large for the highest income tercile, and there is no evidence of an effect on the bottom income tercile. This is consistent with the fact that children from high-income families attend college at much higher rates than those from low-income families. Likewise, Table A.2 reveals that the effects of divorce play out similarly across White, Black, Hispanic, and Asian children with the exception of college residency.[21] While the effect is similar for White, Black, and Asian children, divorce appears to have no effect on Hispanic children residing at a college.

Table A.3 shows that divorce effects are generally similar for boys and girls, contrasting with recent evidence on sex differences in family structure effects (Autor et al., 2019; Chetty et al., 2016b). We find two exceptions: teen births and marriage. The teen birth effect is 50 to 80 percent smaller for boys than girls, though this difference likely reflects measurement rather than behavior. Since teen births are identified through dependent claiming, boys may be less likely to claim children from teen pregnancies. Additionally, early divorce has different effects on marriage by sex: girls experiencing divorce in their first five years of life are 2.4 percentage points (14 percent) less likely to marry than boys experiencing early divorce. This sex gap diminishes with age at divorce and disappears for later divorces.

### 6.4 Assessing the Validity of Divorce Effects

The primary threat in estimating divorce effects is selection: families that divorce (or divorce at particular times) may differ systematically from those that don't divorce (or divorce at other times). Our research design addresses this threat in three ways. First, we only compare children who experience divorce, thus holding constant unobservables related to whether families ever divorce. Second, we use within-family comparisons to account

[21] We define race and ethnicity as follows: White Non-Hispanic, Black or African American Non-Hispanic, Asian Non-Hispanic, Other/Multiple Race Non-Hispanic, and Hispanic of any Race. We simplify the terminology throughout to "White," "Black," "Asian," "Other," and "Hispanic."

for time-invariant family characteristics that might correlate with divorce timing. Third, we test for selection by examining the relationship between outcomes and future divorces.

This within-family design addresses many selection concerns, but its causal interpretation rests on two key assumptions. First, parents must not systematically time divorce based on the differences in characteristics between their older and younger children that might predict future outcomes. Second, factors causing or coinciding with divorce might directly affect children's outcomes. We address each concern with multiple pieces of evidence.

### 6.4.1 Strategic Timing of Divorce

The first concern may take various forms, but consider one example. If families divorced sooner after having a child with disabilities, younger children would have reduced outcomes not because divorce has negative causal effects, but because families that divorce at younger ages are selected for lower-ability youngest children.

Three pieces of evidence argue against this type of critique. First, when we restrict the analysis to exclude the youngest child in each family, our point estimates are the same or slightly larger, contrary to what we would expect if child disability were commonly triggering divorce. This suggests family selection is not driving the results.[22] Second, we find no evidence that younger children in divorcing families have higher rates of severe disability since they are no more likely to live in a group or psychiatric home, as shown in Table A.4. Third, this criticism applies only to our within-family design, not our panel estimates. If younger-child selection were driving our results, the sibling-exposure design would yield larger estimates than the event study approach. Instead, our estimates on mortality align remarkably well across methods: the cumulative effect from our panel data analysis ($0.00015 \times 25 = .00375$) nearly exactly matches our within-family estimate (.00385), providing strong convergent validity.

### 6.4.2 Confounding Factors Coinciding with Divorce

The second concern is that factors causing or coinciding with divorce might directly affect children's outcomes. For instance, perhaps the divorce effects we recover are actually the effects of job loss, mental health crises, or domestic violence that both trigger divorce and directly harm children. Under this critique, our estimates combine the causal effect of divorce with the effects of these precipitating factors.

Four pieces of evidence argue against this critique. First, the timing of effects narrows the range of possible contaminants and suggests that divorce itself is the active agent. Our finding that outcomes change sharply at divorce and persist thereafter implies any candidate confounder would need the same temporal structure: onset at the time of divorce and permanent thereafter. Most potential confounders fail this test, whether they are temporary shocks (like layoffs or health events) or pre-existing conditions (like household conflict). Second, evidence on reasons for divorce points primarily to slow-moving relationship dynamics rather than major disruptions. The most common reasons cited for divorce are lack of family support (43%), infidelity (34%), lack of compatibility (31%),

[22] These results are available on request as Census disclosure rules limit their disclosure in lieu of other results.

lack of intimacy (31%), and financial disagreements (24%), with only 3% citing abuse (Bieber and Ramirez, 2023). Many of these would change gradually over time and exposure to them would likely decrease after divorce. Third, using records from the American Community Survey, we find little evidence of spikes in disruptive events (such as layoffs, psychotic episodes, or incarceration) in the years preceding separation and divorce (see Figure A.2). Fourth, we find very low rates of any of these disruptive events in the period leading up to divorce. For these events to explain our divorce effects, they would have to have implausibly large effects on child outcomes given their frequency. These patterns suggest that our exposure estimates capture the effect of the divorce bundle rather than coincident events or precipitating causes.

While these pieces of evidence suggest that our estimates capture the impact of the divorce bundle, some persistent proximate causes of divorce may also be captured. If this is the case, then our estimates should be interpreted as the effect of the larger divorce event, including both the immediate and persistent contributors to divorce and the set of post-divorce changes to the family outlined in Section 4.1. Our estimates would then speak more closely to the impact of both the family distress surrounding family dissolution and the resulting changes to family life after divorce. In particular, our estimates would measure the impact of a younger child experiencing less of their childhood with the family before the larger divorce event relative to their older sibling.

# 7 Mechanisms through which Divorce Affects Child Outcomes

Our analysis reveals that divorce has meaningful effects on children's outcomes, from increasing mortality, teen births, and incarceration to reducing adult earnings and college residence. To understand why these effects occur, we analyze the role of three measurable channels: changes in neighborhood quality, reductions in household resources, and increases in distance between children and their non-resident parent, which may serve as a proxy for parental involvement. While divorce represents many changes to family life, analyzing these measurable mechanisms helps illuminate how family dissolution affects child development and which aspects most impact children's outcomes.

## 7.1 How Neighborhood Changes Mediate Divorce Effects

To understand the role of neighborhood changes, we leverage causal estimates from the *Opportunity Atlas* which measures how exposure to different neighborhoods affects children's outcomes in adulthood.[23] These estimates enable us to determine the extent to which divorce's impact on the outcomes of teen births, incarceration, and adult income can be attributed to families relocating to less advantaged neighborhoods. By comparing the predicted effects of neighborhood changes to the total effect of divorce, we can quantify what share of the impact operates through the neighborhood channel.

[23]The *Opportunity Atlas* estimates neighborhood effects by comparing the outcomes of siblings whose families move to different areas at different ages, similar to our divorce exposure design. The key identifying assumption is that differences in siblings' outcomes are driven by neighborhood exposure rather than other factors that change when families move. For more details, see Chetty and Hendren (2018a).

Figure 12 shows how the estimated causal effects of children's neighborhoods from Chetty and Hendren (2018a) change around divorce. When parents divorce, children move to neighborhoods that have worse effects on all outcomes. Similar to how the increased rates of moving begin in the two years leading to divorce (see Figure 9), the drop in neighborhood quality begins two years prior to the divorce year. To quantify how much of divorce's total effect operates through neighborhoods, we compare these changes in neighborhood quality to our main effect estimates.[24] For example, the average divorce-related decline in neighborhood quality is predicted to reduce children's income by 0.42 percentiles (t-statistic: 19.74). Since our estimated effect of early childhood divorce on income is 2.44 percentiles, neighborhood changes explain approximately 16 percent of the total impact of divorce on income.

We follow the same approach for other outcomes. The average divorce-related decline in neighborhood quality is predicted to increase teen birth by 0.11 percentage points (t-statistic: 10.29). Since our estimated effect of early childhood divorce on teen births is 0.90 percentage points, neighborhood changes explain approximately 12 percent of the total impact of divorce on teen births. Similarly, children's transition to lower quality neighborhoods is predicted to increase their incarceration rate by 0.082 percentage points (t-statistic: 12.41). Comparing this to our finding that childhood divorce increases incarceration by 0.28 percentage points suggests that neighborhood changes account for roughly 29 percent of the total impact on incarceration. The *Opportunity Atlas* also provides information on neighborhood effects on marriage, but these estimates are for marriage rates between the ages of 32 and 37. While we find declines in the predicted effects of the changes in neighborhood on being married by children's mid 30s, unfortunately, our sample is not yet old enough to observe outcomes at these ages.

Together, these results suggest that neighborhood changes explain a meaningful but modest share of divorce's effects on children—between 12 and 29 percent across outcomes. This implies that other changes in the family due to divorce may have a more significant influence on children's long-term outcomes.

## 7.2 How Financial Resources Mediate Divorce Effects

We next examine how financial resources may mediate the effects of divorce. Similar to our main analysis of divorce exposure, we leverage variation in siblings' exposure to different income levels to isolate the role of income changes. This approach takes advantage of the fact that children in the same family experience different income levels at different ages due to their parents' earnings trajectories. By comparing siblings, we can distinguish the impact of reduced financial resources from other shared family-level factors.

Although there is an existing literature on income effects, we generate new estimates for several reasons. First, much of the existing evidence comes from different contexts (e.g., 1800s historical periods, Nordic countries, or low-income populations).[25] Estimating income effects using an exposure design in contemporary U.S. tax data provides externally valid estimates for understanding divorce's effects. Second, past work often uses different

[24] Due to the increased moving rate that occurs in the two years leading to the year of divorce, we omit these two years when estimating this change.

[25] See, for instance, Bleakley and Ferrie (2016); Cesarini et al. (2016); Price and Song (2018); Ager et al. (2021); Barr et al. (2022).

outcome measures than our divorce analysis, making direct comparisons difficult. Third, although some rigorous studies use random assignment, they typically lack statistical precision. Our tax records provide substantial statistical power. Fourth, previous studies often examine different types of financial changes, such as wealth transfers or single-year income shocks in infancy, rather than sustained changes in household resources. Our exposure design provides more directly relevant estimates for understanding how the persistent income changes from divorce affect children's outcome—we later benchmark our findings against this literature.

To identify the causal role of financial resources, we estimate how family income during childhood affects adult outcomes. Our approach exploits within-family variation in income exposure by comparing siblings who experienced different income levels due to their different ages when family income changed. To separate income effects from divorce effects, we estimate these models using a sample of always-married families, reweighted to match divorcing families' demographic and economic characteristics.[26] Our estimates remain virtually indistinguishable, both statistically and economically, between the unweighted and reweighted samples.

The estimating equation follows a familiar form:

$$y_{ijc} = \sum_m \beta_m \log(\text{Income}_{ijm}) + \alpha_j + \gamma_c + \Gamma X_i + \varepsilon_i \tag{5}$$

where $y_{ijc}$ denotes the adult outcome for child $i$ in family $j$ from birth cohort $c$, and $\log(\text{Income}_{ijm})$ captures the log of average parental income in age bin $m$, where bins represent approximately five-year windows (ages 0–5, 6–10, etc.). The specification includes family fixed effects ($\alpha_j$) to control for time-invariant family characteristics, and birth cohort fixed effects ($\gamma_c$) to account for cohort trends. The vector $X_i$ contains individual-level controls including sex, birth order, and birth spacing relative to siblings. The coefficients $\beta_m$ measure how a 100 percent increase in family income during age bin $m$ affects adult outcomes.

Table 6 reports how family income at different ages affects children's long-term outcomes. Higher family income has a significant effect on children's earnings. For example, in our sample of married families re-weighted to resemble divorcing families, a 100 percent increase in family income during early childhood (ages 0–5) raises adult income rank by 0.84 percentiles. To calculate the full effect of resource changes over childhood, we sum the effects across age bins. The estimates suggest that a 100 percent increase in family income from ages 0 to 25 increases a child's adult income rank by 3.6 percentiles[27]

To apply these estimates to divorce, we need to make an assumption about how much divorce reduces children's available resources. This is difficult because we don't directly observe all elements of investment in children. While household income falls by about 30 percent in the long term after divorce, this likely overstates

[26] Specifically, we first estimate a probit model to predict the probability of divorce among the combined sample of divorcing and always-married families. The model includes parent income percentile rank in 1994 and demographic indicators for Hispanic, non-Hispanic White, Black, Asian, and other race/ethnicity. Using this model, we predict the probability of divorce ($\hat{p}$) for each family and assign weights of $\frac{\hat{p}}{(1-\hat{p})}$ to observations in the always-married sample. This reweighting approach ensures the always-married sample matches the demographic composition of the divorcing sample by upweighting families with similar characteristics and downweighting dissimilar ones.

[27] This calculation sums the effect of 0.0084 for ages 0–5, 0.0059 for ages 6–10, –0.0011 for ages 11–15, 0.0071 for ages 16–20, and 0.0159 for ages 21–25. The total of which is therefore 0.036 or 3.6 percentiles. Here, the log approximation is nearly the exact percent change: $100 \times e^{0.036} - 1 = 3.67$.

the reduction in resources available to children for two reasons. First, children typically have access to parental spending from both households after divorce. Second, parents may prioritize investments in children over other consumption when resources are constrained by divorce, meaning children may not experience proportional reductions in key investments like food or healthcare.

Housing consumption offers another perspective on resource changes. We observe that divorce reduces neighborhood income by about 7 percent—a measure that may better reflect how parents adjust child investments when facing new resource constraints. However, this decrease in neighborhood income may understate the reduction in overall resources if neighborhoods or housing expenditures are more sticky after divorce than other child investments. We use these two measures—the 30 percent decline in household income and the 7 percent decline in neighborhood income—to bound the decline in child-specific resources.

Using our earlier estimates of how income affects children's outcomes, a 7 percent reduction in resources would reduce a child's adult income rank by 0.25 percentiles ($3.6 \times 0.07 \approx 0.25$). A 30 percent reduction in resources would reduce a child's adult income rank by 1.08 percentiles ($3.6 \times 0.30 \approx 1.08$). This implies that reduced resources could explain between 10 and 44 percent of the total effect of divorce on children's income rank. While not fully explaining the effect of divorce on income, a reduction in resources appears to play a meaningful role.

In addition to adult income, the reduction in resources after divorce also explains a meaningful amount of divorce's effect on other adult outcomes. Family income affects teen births primarily during early childhood, where a 100 percent increase in income reduces teen births by 0.12 percentage points. To calculate how much of the divorce effect operates through resources, we sum the income effects across all developmental periods. The cumulative effect of doubling income throughout development reduces teen births by 0.52 percentage points.[28] Given our estimate that divorce reduces household consumption by 7 to 30 percent, this implies divorce would increase teen births by 0.036 to 0.16 percentage points, explaining about 4 to 17 percent of divorce's total effect on teen births.

In Table 6 we find no measurable effects of family income on incarceration. The cumulative effect of doubling income throughout development reduces incarceration by 0.01 percentage points.[29] Given our estimate that divorce reduces household resources by 7 to 30 percent, this implies divorce would increase incarceration by 0.0007 to 0.003 percentage points, explaining only 0.2 to 0.8 percent of divorce's total effect on incarceration. This small role of resources reflects our finding that within-family changes in income appear to have little effect on incarceration.

Our estimates of family income's effects on children's adult income align with several quasi-experimental studies. For instance, studies of lottery winners in Nordic countries find small (usually insignificant) effects of family income on children's skills and mortality (Cesarini et al., 2016). Income experiments also find insignificant effects on children's adult income, with confidence intervals that include our estimated effect (Price and Song,

[28] Sum of effects across periods for teen births: $(-0.0012) + (-0.0010) + (-0.0006) + (-0.0013) + (-0.0011) = -0.0052$.
[29] Sum of effects across periods for incarceration: $((-0.0002) + (0.0001) + (0.0001) + (0.0001) + (-0.0002) = -0.0001$.

2018).[30] Natural experiments examining longer intergenerational effects of wealth find small effects on children's education and income, fairly consistent with our estimates (Løken, 2010; Bleakley and Ferrie, 2016; Ager et al., 2021). Studies showing larger income effects on adult earnings typically focus on low-income families during sensitive developmental periods. For example, Barr et al. (2022) study low-income parents who receive their child's tax credit a year earlier based on birthdate cutoffs. The larger effects in this study may reflect both its focus on low-income families and the particular sensitivity of infancy to economic resources.

A few considerations bear mentioning when interpreting these results. First, income effects likely operate in part through neighborhood choice. As such, we may be double-counting effects when we separately estimate the roles of income and neighborhood quality.[31] Second, our estimates could potentially understate income's importance if parents smooth consumption over their careers. However, empirical evidence suggests such smoothing is limited: many individuals are hand-to-mouth consumers who spend nearly all their income each period; consumption does not increase when raises are announced; and studies show that people fail to smooth consumption even when income changes are completely predictable (Shea, 1995; Parker, 1999; Shapiro and Slemrod, 2009; Stephens Jr, 2008; Ganong and Noel, 2019; Montano and Posso, 2024). This evidence indicates generally low levels of consumption smoothing. Additionally, parents likely have similar consumption smoothing propensities before and after divorce. If so, our estimates based on married families would accurately capture how divorce-induced income changes affect children. This, combined with the fact that our results align with experimental estimates, suggests age-specific income effectively captures how resources translate into child investment. Third, our estimates elide the effect of financial resources with those of parental labor supply. When family income changes, it often coincides with changes in parents' employment and work hours, potentially affecting time investments in children as well.

## 7.3 How Parent-Child Proximity Mediates Divorce Effects

Last, we examine how physical proximity between parents and children mediates the effects of divorce on child outcomes. Greater geographic distance can diminish parents' capacity for direct involvement, mentoring, monitoring, and role modeling—potentially fundamental processes that shape child development through sustained interaction.

To analyze the mediating role of parental distance, we return to our event study findings on how divorce affects child mortality and teen births. We estimate the average effect of divorce using a simple event-study model:

$$y_{it} = \beta \text{post}_{it} + \alpha_{it} + \lambda_i + \varepsilon_{it} \tag{6}$$

[30] The income experiments increased government benefits by $2,700, or about 12 percent of earnings. This three-to-five-year treatment is associated with an insignificant 1.6 percent decline in children's later adult income (confidence interval: [-6.9,3.7]). Our estimates suggest that a 10 percent increase in parent income over five years increases adult income by 0.26 percent in early childhood and 0.03 percent in early adolescence, both well within their confidence interval.

[31] We expect this double counting to be relatively small. When married families' incomes rise, they can choose whether to move to better neighborhoods or not. By contrast, divorce typically forces families to move to lower-quality neighborhoods due to lost economies of scale. This suggests the neighborhood channel is less important in our sample of always-married families, reducing concerns about double counting.

where post indicates all time periods after a child has experienced parental divorce. The age fixed effects $\alpha_{it}$ account for age-specific patterns in teen births and mortality risk, while cohort fixed effects $\lambda_i$ capture birth-year differences in risk profiles. The error term $\varepsilon_{it}$ represents unobserved individual shocks that are assumed uncorrelated with treatment timing.

To assess how parental distance mediates these effects, we follow a two-step process. First, we calculate the average Euclidean distance between children's residences and their non-resident parent (usually the father) in the five years following divorce. Second, we estimate an expanded model that includes both a main effect for distance and an interaction between post and distance:

$$y_{it} = \beta \text{post}_{it} + \gamma_1 \text{distance}_i + \gamma_2 \text{distance}_i \times \text{post}_{it} + \alpha_{it} + \lambda_i + \varepsilon_{it} \tag{7}$$

The parameter $\gamma_1$ captures the relationship between eventual post-divorce parental distance and the outcome in the pre-divorce period. The parameter $\gamma_2$ describes how parental distance mediates the divorce effect in the post period; we expect this coefficient to be positive if greater parental distance partly explains the adverse effects of divorce (higher teen births and mortality).

Column (1) of Table 7 shows that divorce increases mortality by 15.7 deaths per 100,000 children. When we add controls for distance in column (2), this estimate decreases by 15 percent to 13.3 deaths per 100,000, suggesting that distance mediates only a small portion of the mortality effect. However, although positive, the coefficient on the interaction term is not statistically significant. The main effect of distance ($\gamma_1$) is small and statistically insignificant, indicating that the eventual distance between couples who divorce does not predict mortality rates before divorce.

Column (3) shows that divorce increases teen births by 1.79 per 1,000 teens. Adding controls for parental distance reduces this coefficient by 22 percent to 1.40 per 1,000. We find no significant relationship between eventual parent distance and teen births before divorce, consistent with marriages that end in greater distance not having higher baseline teen birth rates. However, after divorce, the distance measure becomes highly significant ($p < 0.001$) in explaining the rise in teen births. This suggests that distance mediates about one-fifth of the increase in teen births, potentially through reduced parental supervision or psychological effects of parent absence.[32]

It bears mention that separation distance is not randomly assigned but rather reflects parents' choices and constraints. Although our analysis shows that eventual distance does not predict outcomes before divorce (suggesting distance isn't merely a proxy for pre-existing family characteristics), we cannot rule out that unobserved time-varying factors might influence both the decision to move farther apart and children's outcomes. For instance, parents with more contentious relationships might both move farther apart and create environments less conducive to child wellbeing.

[32] According to Ellis et al. (2003) and Kiernan and Hobcraft (1997), father absence in general is associated with a higher risk of teenage pregnancy.

In summary, we find that divorce effects are mediated by neighborhoods (16–29 percent), income (10–44 percent), and parental distance (15–22 percent). For teen births, where we can analyze all three mediating factors, we explain approximately 43 percent of the divorce effect. Parental distance after divorce emerges as the strongest mediator (22 percent), followed by neighborhood effects (12 percent), while income explains little of the effect. One key implication is that the effects of divorce on outcomes such as incarceration and teen births are unlikely to be mediated by income transfers, as income is largely unsuccessful at altering these outcomes. Due to data limitations, we cannot measure other potentially important mediators, such as family function and time use patterns.

# 8 Conclusion

While the family remains a fundamental social institution, its structure has changed significantly over the past century. In this paper, we use linked tax and Census data to create a comprehensive portrait of divorce and its implications for families and children. We shed light on the mechanics and consequences of divorce in three ways.

First, we show how divorce alters the material resources and relational structure of families. Following divorce, parents establish separate households, household income declines, children relocate to lower-income neighborhoods, and step-parents begin to enter the family unit. Our data reveal that divorcing parents typically increase their work hours while simultaneously assuming responsibility for additional dependents. These changes suggest a significant reduction in the time and resources parents can devote to each child post-divorce. These observable changes, along with other unmeasured ones, constitute the bundled treatment called "divorce."

Second, we show how divorce affects a range of child outcomes. We find that teen births and child mortality increase following divorce and remain elevated throughout the observation window, suggesting that divorce represents a turning point in the trajectory of children's outcomes. When estimating long-run effects, we find that early childhood divorce reduces adult earnings by 9 to 13 percent, similar to the effect of obtaining one less year of education or moving to a one-standard-deviation lower quality neighborhood for all of childhood. Our results indicate that approximately 15 percent of the cross-sectional gap between the children of unmarried and always-married parents is attributable to the causal pathway of family structure. Experiencing a divorce at an early age increases children's risk of teen birth by roughly 60 percent, while also elevating risks of incarceration and mortality by approximately 40 and 45 percent, respectively.

Third, we show how the effect of divorce is potentially mediated by three key factors: reductions in household resources, changes in neighborhood quality, and increased distance between parents and children. Resource reductions explain up to 44 percent of the earnings effect, up to 17 percent of the teen birth effect, and less than 1 percent of the incarceration effect. Neighborhood changes account for 16 percent of the income effect, 12 percent of the teen birth effect, and 29 percent of the incarceration effect. Finally, parental distance mediates 15 percent

of the mortality effect and 22 percent of the teen birth effect.

These results motivate family-focused approaches to improving economic opportunity. These might include policies that stabilize family resources during divorce transitions; education and research to help individuals develop and maintain stable marriages; school interventions designed to mitigate the adverse impacts of divorce during childhood; and promoting norms that facilitate continued engagement and financial support by non-resident parents.

Finally, since observable mechanisms explain only 25 to 60 percent of divorce's effects, future research should examine additional channels through which divorce affects children, particularly those not observable in administrative data, such as changes in parental time investment and family dynamics. Given that divorce has negative effects on children's outcomes and is more prevalent among low-income families, addressing its impacts may be crucial for reducing the intergenerational transmission of disadvantage.

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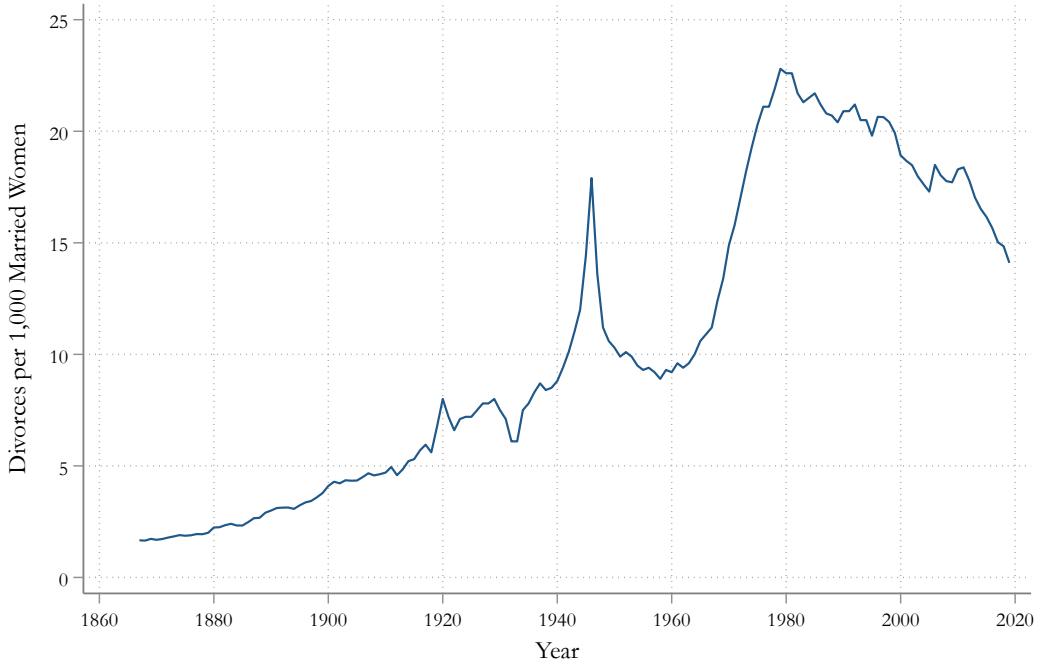
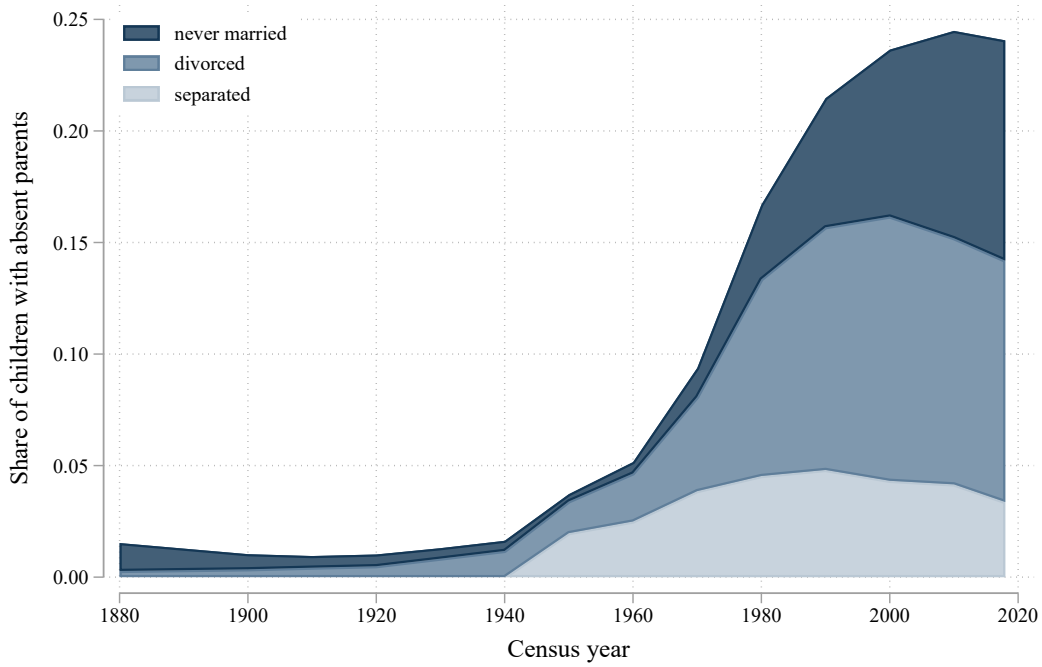
# Figures and Tables

**Figure 1:** Divorces per 1,000 Married Women, 1867–2019




***Notes***: The figure shows divorces per 1,000 married women from 1867 to 2019, using data from Kennedy and Ruggles (2014) extended to 2019. Data sources include divorce counts for 1867–1919 from the National Office of Vital Statistics (1949: Part 1, Table CT); 1920–1995 from Haines (2006); 1996–2019 from National Center for Health Statistics (2012). The proportion of married females for 1867–1919 and 1996–2010 was estimated using Ruggles et al. (2012), while 2011–2019 estimates come from the American Community Survey.

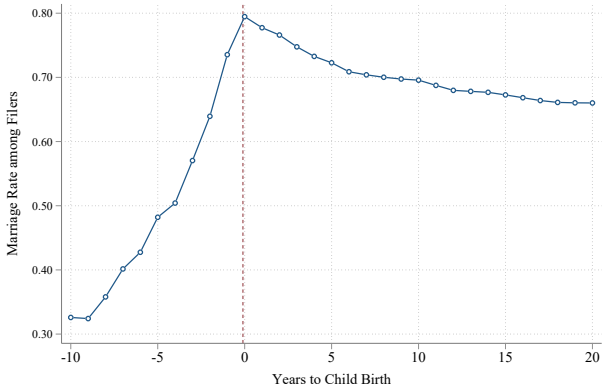
**Figure 2:** Fraction of Children Living in Single Parent Household



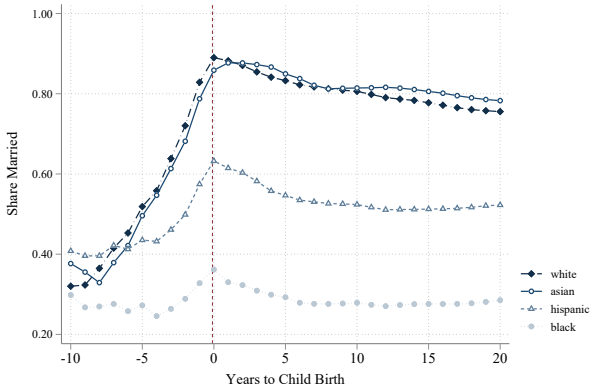

***Notes***: The figure shows the fraction of children in a given Census year who live with a single parent while the other parent is absent, categorized by whether the present parent is currently separated, divorced, or never married. These data do not capture children living with a divorced parent who has remarried. Data source: U.S. Census data from 1880 to 2018. Analogous figures for Black and White children can be seen in Figure A.1.

**Figure 3:** Marriage Over the Child's Life Cycle

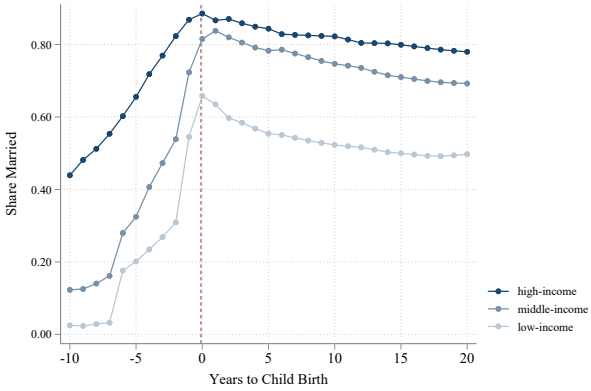
(a) All Filers




(b) By Race/Ethnicity



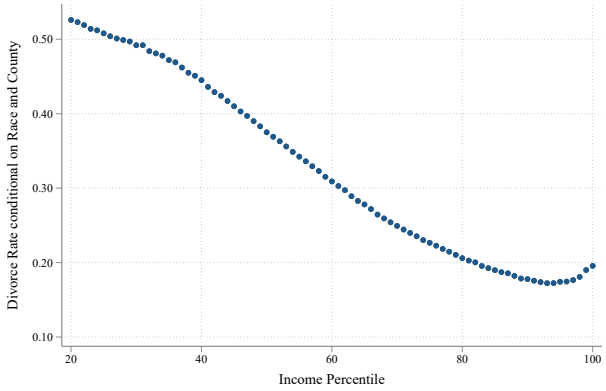

(c) By Income Group



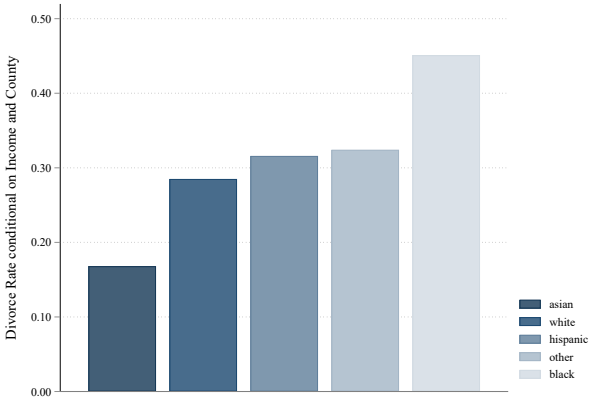

***Notes***: These figures plot the share of mothers who are married before and after childbirth. All panels track children born between 1988 and 1993, with year 0 marking the child's birth (indicated by the vertical dashed line). Panel (a) shows the overall marriage rate among tax filers. Panel (b) displays marriage rates by mother's race or ethnicity. Panel C shows marriage rates by family income terciles (high-income, middle-income, and low-income). The $x$-axis represents years relative to child birth, ranging from 10 years before to 20 years after. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 4:** Residualized Divorce Rates by Income and Race/Ethnicity

(a) By Income Percentile



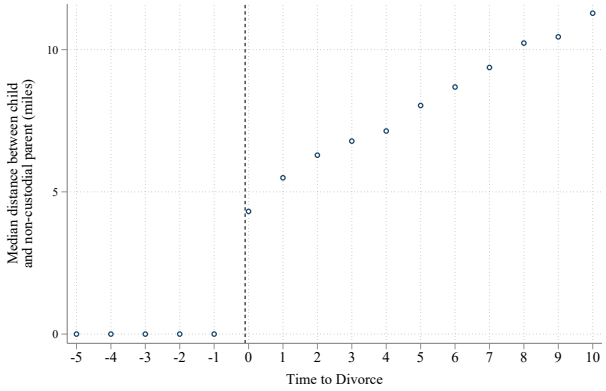

(b) By Race/Ethnicity



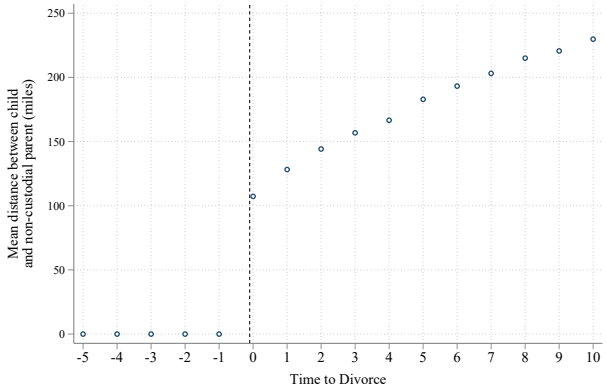

***Notes***: These figures show residualized divorce rates by income and race. Both panels analyze children born between 1988 and 1993 who were initially claimed by married parents. Panel (a) plots the relationship between family income percentile (measured in 2000) and divorce rates after controlling for Census tract fixed effects and race fixed effects. To aid interpretation, we plot the relationship while adding back the mean divorce rate. The bottom 20 percentiles are omitted due to zero reported family income. Panel (b) shows divorce rates by race/ethnicity after controlling for Census tract and income percentile. We again add the mean divorce rate to facilitate interpretation. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 5:** Distance between Child and Non-Resident Parent around Divorce

(a) Median Distance



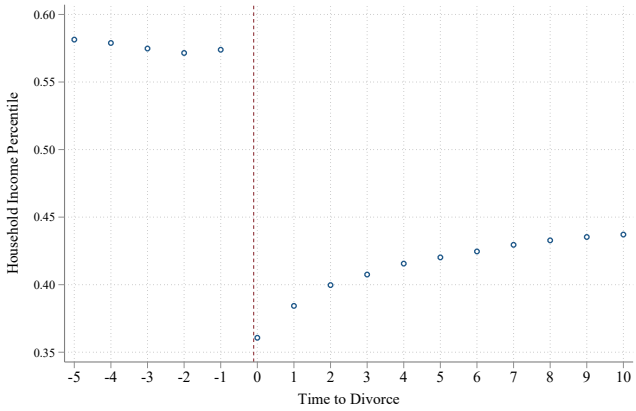

(b) Mean Distance



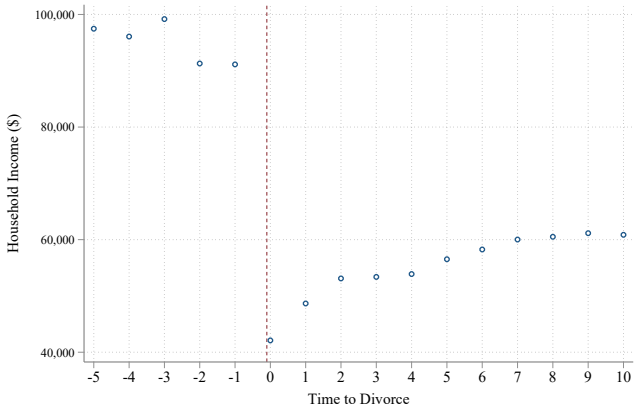

***Notes***: These figures show the evolution of physical distance between children and their non-resident parents after divorce. The left panel plots median distance while the right plots mean distance. The $x$-axis represents years relative to divorce, with 0 marking the divorce year (indicated by the vertical dashed line). Distance is measured as the Euclidean distance (in miles) between parents' residential addresses from tax records. We assume zero distance before formal divorce, although some couples separate physically before their divorce is finalized. The large difference between median and mean distances indicates that while most non-resident parents live relatively close to their children, a smaller number move significantly farther away, pulling the mean upward. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 6:** Household Income Around Divorce

(a) Household Income Percentile



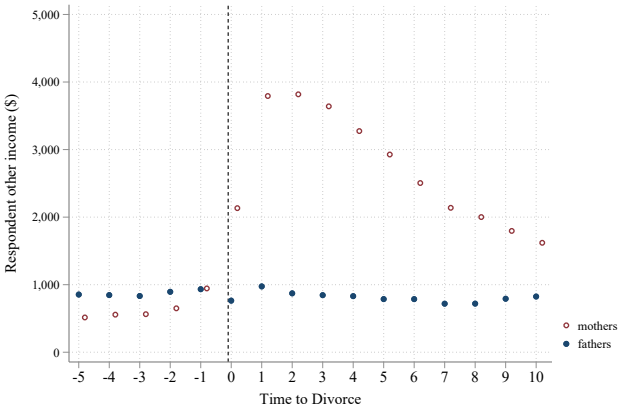

(b) Household Income



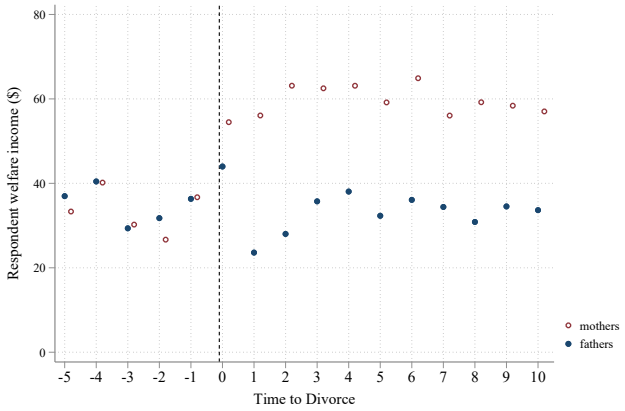

***Notes***: These figures track household income around the time of divorce for children born between 1988 and 1993. The left panel shows the percentile rank of household income in the national income distribution; the right panel shows household income in 2020 dollars. The $x$-axis represents years relative to divorce with 0 marking the divorce year (indicated by the vertical dashed line). Both panels show a sharp drop at divorce as one household splits into two, followed by partial recovery over the next decade. Income measures include adjusted gross income from tax returns plus tax-exempt interest and nontaxable Social Security benefits. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 7:** Non-Taxable Household Income around Divorce

(a) Other Income (Including Child Support)



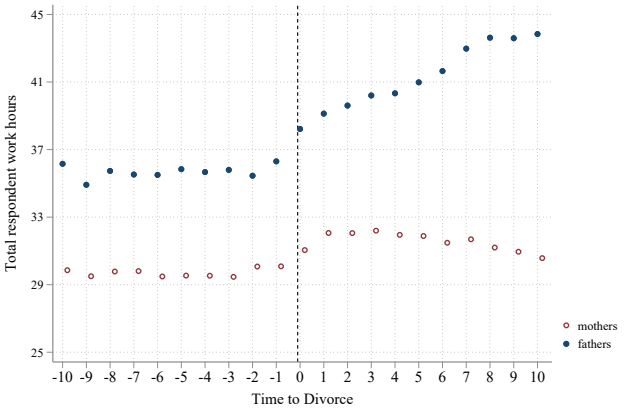

(b) Welfare Income



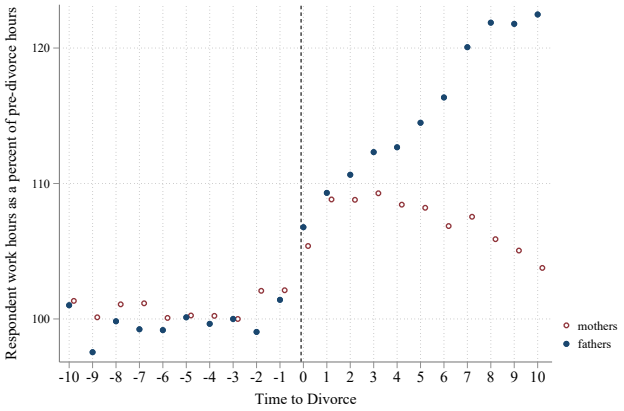

***Notes***: Panel (a) shows how "other" income changes around divorce as reported in the American Community Survey. "Other" income includes all income that is not captured in the standard income categories. The substantial increase for women at divorce likely reflects child support payments. Child support income is not taxable and is therefore excluded from our tax record-based estimates. Panel (b) shows how welfare income changes around divorce, which is also non-taxable. Time zero represents the year of divorce. All dollar amounts are adjusted to 2020 dollars using CPI-U. Both panels use data from the American Community Survey. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 8:** Weekly Work Hours around Divorce

(a) Total Weekly Work Hours



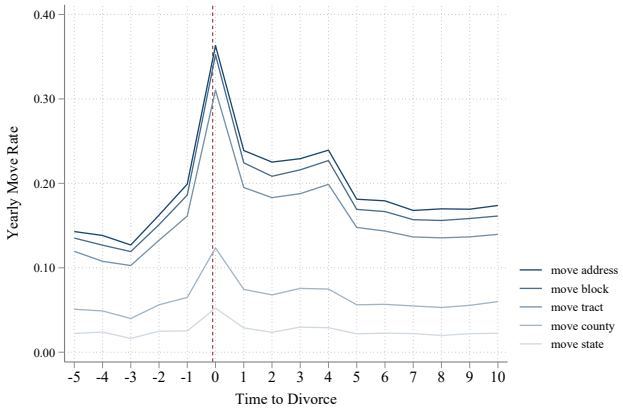

(b) Work Hours Relative to Pre-divorce Level



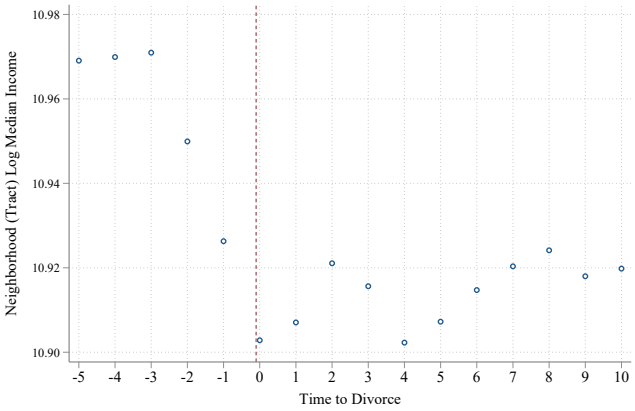

***Notes***: These figures show changes in parents' weekly work hours around divorce. To more easily compare the series breaks at divorce, we detrend each using its pre-divorce trend. Panel (a) shows the absolute number of weekly work hours among the employed, while Panel (b) shows hours worked as a percentage of pre-divorce levels (normalized to 100%). Time zero represents the year of divorce. Fathers increase their work hours by about 16% in the decade after divorce, while mothers initially increase work hours by about 8% before gradually returning to pre-divorce levels. Data on outcomes are from the American Community Survey, with event-time inferred by tax records. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 9:** Moving and Neighborhood Quality around Divorce

(a) Annual Moving Rates by Geographic Unit



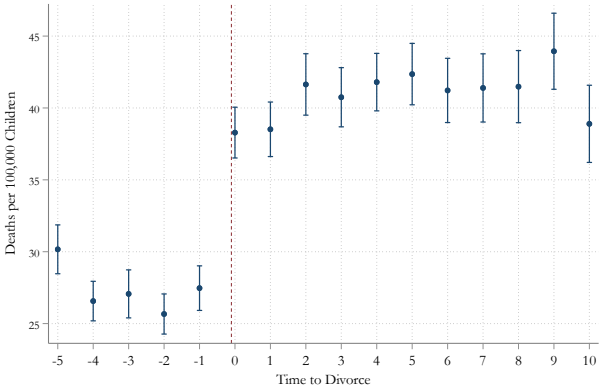

(b) Neighborhood Income Percentile



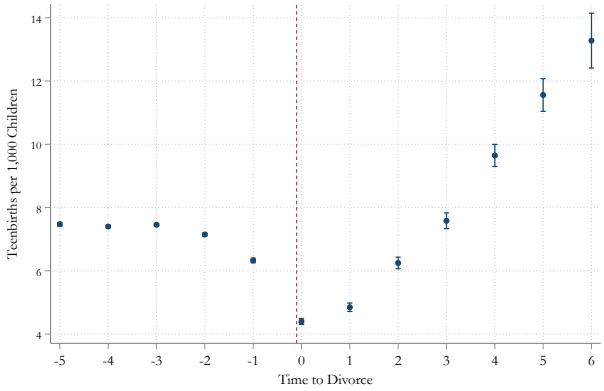

***Notes***: These figures document changes in residential mobility and neighborhood quality around divorce. Panel (a) shows the fraction of households that relocate across different geographic units (address, block, tract, county, or state) in each year relative to divorce. Panel (b) presents the average log neighborhood income of children's Census tracts. Time zero represents the year of divorce. Moving rates triple at divorce and remain elevated in subsequent years, while neighborhood quality declines by approximately 7 percent and remains persistently lower afterward. Data derived from tax records linked to Census tract characteristics. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure 10:** Event Studies on Child Mortality and Teen Birth

(a) Mortality

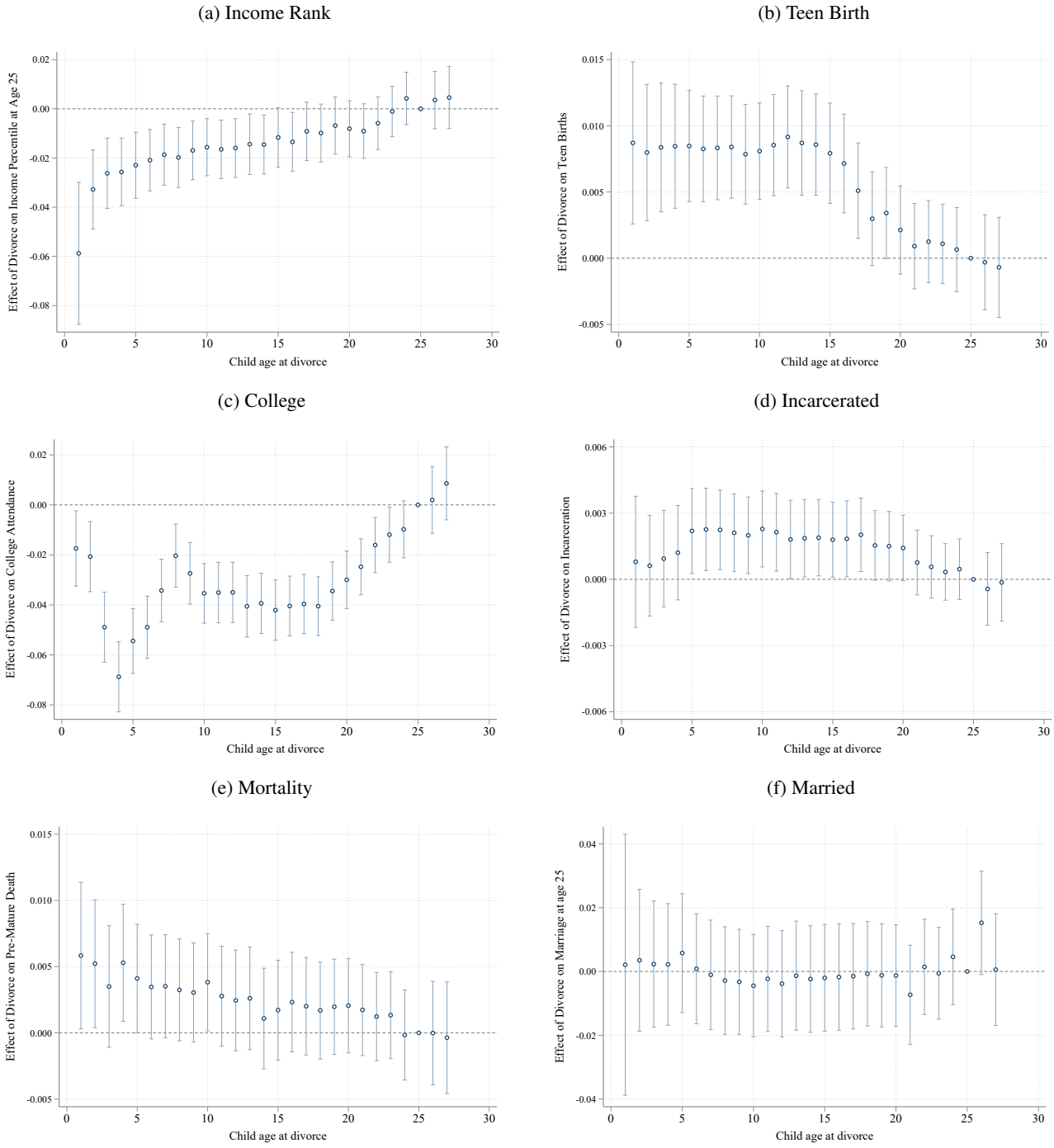



(b) Teen Birth




***Notes***: These figures present event study plots for child mortality and teen birth rates around parental divorce. Both outcomes are residualized using regressions with age and cohort fixed effects, with mean values added back for easier interpretation. Panel (a) shows mortality rates (deaths per 100,000 children) by year relative to parental divorce. Panel (b) shows teen birth rates (births per 1,000 children) by year relative to divorce. Both panels analyze children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-0281.

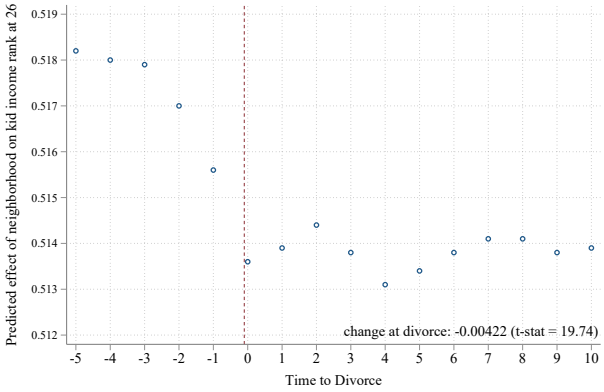
**Figure 11:** Effects of Divorce by Age at which Parents Divorced



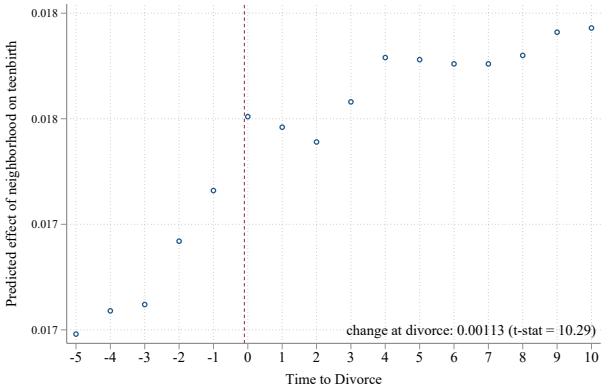

***Notes***: All panels use our main analysis dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Each panel illustrates the age-specific effects of parental divorce by plotting the estimated $b_m$ coefficients from Equation (4) for ages 1 to 27 for the corresponding outcome. The specification mirrors Column (5) of Table 2, including fixed effects for birth cohort, family, sex, birth order, and birth spacing. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010. DRB approval number: CBDRB-FY23-0281.

**Figure 12:** Event Studies for Predicted Neighborhood Effects

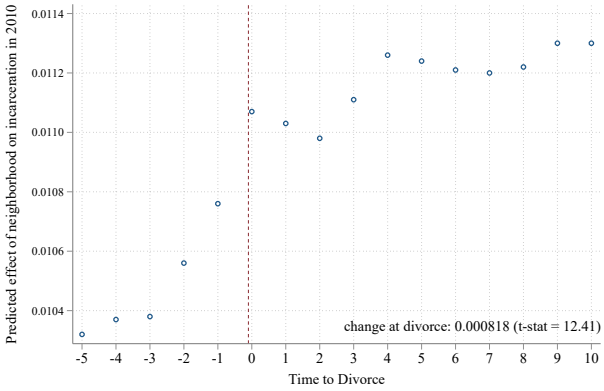
(a) Income Rank



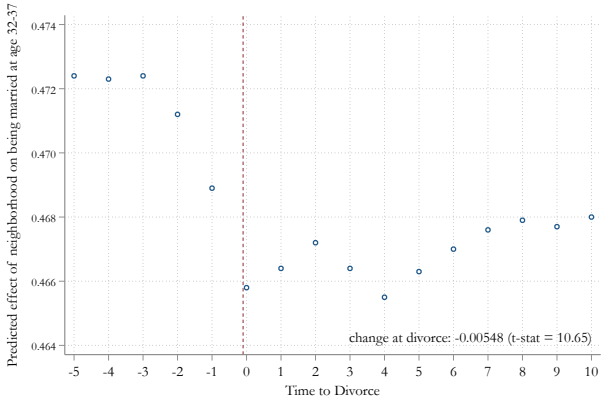

(b) Teen Birth




(c) Incarcerated




(d) Married at Age 32-37




***Notes***: The figures present event study plots showing how neighborhood quality changes around divorce affect predicted child outcomes. The predictions combine causal neighborhood effect estimates from Chetty and Hendren (2018a) with the observed changes in residential location in our data. Panel (a) shows neighborhood effects on income rank, Panel (b) shows effects on probability of a teen birth, Panel (c) shows effects on probability of incarceration, and Panel (d) shows effects on marriage rates in the mid-thirties. DRB approval number: CBDRB-FY23-0281.

**Table 1:** Summary Statistics

| Variable | Mean (1) | Median (2) | Std. Dev. (3) | Observations (4) |
|---|---|---|---|---|
| Panel A: Divorced | | | | |
| Parent Income (Avg. 1995-2000) | 71,580 | 46,550 | 256,600 | 5,329,000 |
| Parent Income Rank 2000 | 0.493 | 0.484 | 0.278 | 5,329,000 |
| Child White | 0.682 | 1.000 | 0.466 | 5,329,000 |
| Child Hispanic | 0.157 | 0.000 | 0.364 | 5,329,000 |
| Child Black | 0.087 | 0.000 | 0.282 | 5,329,000 |
| Child Asian | 0.034 | 0.000 | 0.182 | 5,329,000 |
| Child Working at 25 | 0.843 | 1.000 | 0.364 | 4,552,000 |
| Child Family Income at 25 | 27,520 | 21,970 | 53,000 | 4,552,000 |
| Child Income Rank at 25 | 0.510 | 0.516 | 0.283 | 4,552,000 |
| Child Married at 25 | 0.180 | 0.000 | 0.384 | 4,552,000 |
| Child Teen Birth | 0.0151 | 0.0000 | 0.1219 | 5,329,000 |
| Child in College in 2010 | 0.0764 | 0.0000 | 0.2657 | 4,439,000 |
| Child Incarcerated in 2010 | 0.0046 | 0.0000 | 0.0674 | 4,439,000 |
| Child Mortality | 0.0123 | 0.0000 | 0.1101 | 5,329,000 |
| Panel B: Unmarried | | | | |
| Parent Income (Avg. 1995-2000) | 22,230 | 17,730 | 47,850 | 2,271,000 |
| Parent Income Rank 2000 | 0.269 | 0.241 | 0.169 | 2,271,000 |
| Child White | 0.249 | 0.000 | 0.432 | 2,271,000 |
| Child Hispanic | 0.193 | 0.000 | 0.395 | 2,271,000 |
| Child Black | 0.464 | 0.000 | 0.499 | 2,271,000 |
| Child Asian | 0.019 | 0.000 | 0.135 | 2,271,000 |
| Child Working at 25 | 0.791 | 1.000 | 0.407 | 1,923,000 |
| Child Family Income at 25 | 17,820 | 13,940 | 68,140 | 1,923,000 |
| Child Income Rank at 25 | 0.393 | 0.362 | 0.252 | 1,923,000 |
| Child Married at 25 | 0.081 | 0.000 | 0.273 | 1,923,000 |
| Child Teen Birth | 0.0242 | 0.0000 | 0.1537 | 2,271,000 |
| Child in College in 2010 | 0.0406 | 0.0000 | 0.1973 | 1,776,000 |
| Child Incarcerated in 2010 | 0.0151 | 0.0000 | 0.1221 | 1,776,000 |
| Child Mortality | 0.0154 | 0.0000 | 0.1231 | 2,271,000 |
| Panel C: Always Married | | | | |
| Parent Income (Avg. 1995-2000) | 112,500 | 78,150 | 344,200 | 8,417,000 |
| Parent Income Rank 2000 | 0.665 | 0.715 | 0.249 | 8,417,000 |
| Child White | 0.764 | 1.000 | 0.425 | 8,417,000 |
| Child Hispanic | 0.115 | 0.000 | 0.319 | 8,417,000 |
| Child Black | 0.038 | 0.000 | 0.191 | 8,417,000 |
| Child Asian | 0.056 | 0.000 | 0.230 | 8,417,000 |
| Child Working at 25 | 0.858 | 1.000 | 0.349 | 7,193,000 |
| Child Family Income at 25 | 33,460 | 27,000 | 238,000 | 7,193,000 |
| Child Income Rank at 25 | 0.567 | 0.604 | 0.292 | 7,193,000 |
| Child Married at 25 | 0.208 | 0.000 | 0.406 | 7,193,000 |
| Child Teen Birth | 0.0061 | 0.0000 | 0.0778 | 8,417,000 |
| Child in College in 2010 | 0.1290 | 0.0000 | 0.3352 | 7,307,000 |
| Child Incarcerated in 2010 | 0.0015 | 0.0000 | 0.0392 | 7,307,000 |
| Child Mortality | 0.0083 | 0.0000 | 0.0906 | 8,417,000 |

***Notes***: This table presents summary statistics for children born between 1988 and 1993. Panel (a) reports summary statistics for children initially claimed by married parents who later divorced. Panel (b) reports statistics for children initially claimed by an unmarried parent. Panel (c) reports statistics for children who were initially claimed by married parents who remained married through 2018. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 2:** Effect of Divorce on Income Rank for Various Specifications

| | Income Rank | | | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Divorce (Age 0–5) | -0.0674*** | -0.0242*** | -0.0243*** | -0.0241*** | -0.0244*** |
| | (0.0009) | (0.0059) | (0.0059) | (0.0059) | (0.0059) |
| Divorce (Age 6–10) | -0.0393*** | -0.0182*** | -0.0183*** | -0.0182*** | -0.0185*** |
| | (0.0008) | (0.0052) | (0.0052) | (0.0052) | (0.0052) |
| Divorce (Age 11–15) | -0.0388*** | -0.0157** | -0.0158** | -0.0157** | -0.0160** |
| | (0.0009) | (0.0050) | (0.0050) | (0.0050) | (0.0050) |
| Divorce (Age 16–20) | -0.0276*** | -0.0107* | -0.0108* | -0.0107* | -0.0109* |
| | (0.0009) | (0.0047) | (0.0047) | (0.0047) | (0.0047) |
| Divorce (Age 21–25) | -0.0121*** | -0.00573 | -0.00576 | -0.00573 | -0.00585 |
| | (0.0009) | (0.0040) | (0.0040) | (0.0040) | (0.0040) |
| Cohort FE | X | X | X | X | X |
| Family FE | | X | X | X | X |
| Sex FE | | | X | X | X |
| Birth-order FE | | | | X | X |
| Birth-spacing FE | | | | | X |
| Adj. R-Squared | 0.00 | 0.18 | 0.18 | 0.18 | 0.18 |
| Observations | 4,552,000 | 4,552,000 | 4,552,000 | 4,552,000 | 4,552,000 |
| Families | 3,519,000 | 3,519,000 | 3,519,000 | 3,519,000 | 3,519,000 |

***Notes***: This table reports the effect of divorce at different age intervals on children's family income rank at age 25. The analysis uses our main dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Each column presents estimates from Equation (4) where ages are grouped into five-year intervals, with progressively more controls added across specifications. The fully saturated model in Column (5) includes fixed effects for birth cohort, family, sex, birth order, and birth spacing. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 3:** Effect of Divorce on Different Types of Income Measures

| | Family Income (1) | Individual Income (2) | Family Log Income (3) | Individual Log income (4) | Family Income Rank (5) | Individual Income Rank (6) | Working (7) |
|---|---|---|---|---|---|---|---|
| Divorce (Age 0–5) | -2832* | -2416* | -0.0865** | -0.0781** | -0.0244*** | -0.0232*** | -0.00543 |
| | (1,192) | (1,072) | (0.0264) | (0.0287) | (0.0059) | (0.00586) | (0.00744) |
| Divorce (Age 6–10) | -2279* | -1,818 | -0.0643** | -0.0566* | -0.0185*** | -0.0181*** | -0.0065 |
| | (1159) | (1,048) | (0.0234) | (0.0255) | (0.0052) | (0.00523) | (0.0066) |
| Divorce (Age 11–15) | -1,832 | -1,334 | -0.0537* | -0.0455 | -0.0160** | -0.0158** | -0.00711 |
| | (1,161) | (1,042) | (0.0224) | (0.0244) | (0.0050) | (0.00502) | (0.00635) |
| Divorce (Age 16–20) | -1,023 | -767 | -0.0348 | -0.0255 | -0.0109* | -0.0108* | -0.00609 |
| | (1,139) | (1,055) | (0.021) | (0.0229) | (0.0047) | (0.00472) | (0.00598) |
| Divorce (Age 21–25) | -676 | -423 | -0.0207 | -0.00798 | -0.00585 | -0.00584 | -0.00302 |
| | (1,073) | (1,028) | (0.0175) | (0.0191) | (0.0040) | (0.00396) | (0.00499) |
| Adj. R-Squared | 0.15 | 0.15 | 0.14 | 0.14 | 0.18 | 0.18 | 0.09 |
| Observations | 4,552,000 | 4,552,000 | 4,039,000 | 3,947,000 | 4,552,000 | 4,552,000 | 4,552,000 |
| Families | 3,519,000 | 3,519,000 | 3,202,000 | 3,144,000 | 3,519,000 | 3,519,000 | 3,519,000 |

***Notes***: This table reports the effect of divorce at different age intervals on various income and employment measures at age 25. The analysis uses our main dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Each column presents estimates from Equation (4) with ages grouped in five-year intervals. All specifications use the fully saturated model from Column (5) of Table 2, including fixed effects for birth cohort, family, sex, birth order, and birth spacing. Due to census disclosure limits, the adjusted R-squared for Column (2) is undisclosed and is reported as matching Column (1). * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 4:** Effect of Divorce on Income Rank by Age

| | Income Rank | | | | |
|---|---|---|---|---|---|
| | Age 23 | Age 24 | Age 25 | Age 26 | Age 27 |
| | (1) | (2) | (3) | (4) | (5) |
| Divorce (Age 0–5) | -0.000813 | -0.0181 | -0.0267* | -0.0328** | -0.0388** |
| | (0.0125) | (0.0125) | (0.0124) | (0.0125) | (0.0124) |
| Divorce (Age 6–10) | -0.00181 | -0.0176 | -0.0248* | -0.0284* | -0.0328** |
| | (0.0113) | (0.0113) | (0.0113) | (0.0113) | (0.0113) |
| Divorce (Age 11–15) | -0.000151 | -0.0149 | -0.0222* | -0.0245* | -0.0284* |
| | (0.0112) | (0.0112) | (0.0112) | (0.0112) | (0.0112) |
| Divorce (Age 16–20) | 0.00267 | -0.0116 | -0.0167 | -0.0179 | -0.0196 |
| | (0.0111) | (0.0111) | (0.0111) | (0.0111) | (0.011) |
| Divorce (Age 21–25) | -0.000699 | -0.00851 | -0.00977 | -0.00849 | -0.00805 |
| | (0.0099) | (0.0099) | (0.00988) | (0.00991) | (0.00987) |
| Adj. R-Squared | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |
| Observations | 2,825,000 | 2,825,000 | 2,825,000 | 2,825,000 | 2,825,000 |
| Families | 2,475,000 | 2,475,000 | 2,475,000 | 2,475,000 | 2,475,000 |

***Notes***: This table reports the effect of divorce at different age intervals on children's income rank measured at ages 23 through 27, allowing us to assess how the estimated effects evolve as individuals age into adulthood. The analysis uses our main dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Each column presents estimates from Equation (4) with ages grouped into five-year intervals. All specifications use the fully saturated model from Column (5) of Table 2, including fixed effects for birth cohort, family, sex, birth order, and birth spacing. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 5:** Effect of Divorce on Adult Outcomes

| | Income Rank (1) | Teen Birth (2) | College (3) | Incarcerated (4) | Mortality (5) | Married (6) |
|---|---|---|---|---|---|---|
| Divorce (Age 0–5) | -0.0244*** | 0.00896*** | -0.0608*** | 0.00210* | 0.00385* | -0.00353 |
| | (0.0059) | (0.0019) | (0.0059) | (0.0009) | (0.00183) | (0.0081) |
| Divorce (Age 6–10) | -0.0185*** | 0.00904*** | -0.0442*** | 0.00281*** | 0.00285 | -0.00711 |
| | (0.0052) | (0.0016) | (0.0055) | (0.0008) | (0.00165) | (0.0072) |
| Divorce (Age 11–15) | -0.0160** | 0.00948*** | -0.0496*** | 0.00259*** | 0.00174 | -0.00674 |
| | (0.0050) | (0.0015) | (0.0052) | (0.0007) | (0.00158) | (0.0069) |
| Divorce (Age 16–20) | -0.0109* | 0.00560*** | -0.0458*** | 0.00239*** | 0.00178 | -0.00639 |
| | (0.0047) | (0.0014) | (0.0049) | (0.0007) | (0.00148) | (0.0065) |
| Divorce (Age 21–25) | -0.00585 | 0.00239* | -0.0217*** | 0.00116* | 0.000924 | -0.00803 |
| | (0.0040) | (0.0011) | (0.0042) | (0.0005) | (0.00124) | (0.0055) |
| Mean DV | 0.5146 | 0.0123 | 0.0892 | 0.0046 | 0.0110 | 0.1769 |
| Adj. R-Squared | 0.18 | 0.00 | 0.16 | 0.10 | 0.05 | 0.12 |
| Observations | 4,552,000 | 5,329,000 | 4,439,000 | 4,439,000 | 5,329,000 | 4,552,000 |
| Families | 3,519,000 | 3,926,000 | 3,408,000 | 3,408,000 | 3,926,000 | 3,519,000 |

***Notes***: This table reports the effect of divorce at different age intervals on various adult outcomes. Outcome variable definitions are provided in Section 3.3. The analysis uses our main dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. Each column presents estimates from Equation (4) with ages grouped in five-year intervals. All results use the fully saturated model from Column (5) of Table 2, including fixed effects for birth cohort, family, sex, birth order, and birth spacing. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 6:** Parent Income Effects on Adult Outcomes

| | Income Rank (1) | Teen Birth (2) | College (3) | Incarcerated (4) | Mortality (5) | Married (6) |
|---|---|---|---|---|---|---|
| Log Parent Income (Age 0–5) | 0.0084*** | -0.0012** | 0.0165*** | -0.0002 | -0.0005 | -0.0097*** |
| | (0.0014) | (0.0004) | (0.0022) | (0.0002) | (0.0005) | (0.0020) |
| Log Parent Income (Age 6–10) | 0.0059** | -0.001 | 0.0422*** | 0.0001 | -0.0003 | -0.0215*** |
| | (0.0021) | (0.0006) | (0.0035) | (0.0003) | (0.0007) | (0.0029) |
| Log Parent Income (Age 11–15) | -0.0011 | -0.0006 | 0.0165*** | 0.0001 | 0.0007 | -0.0265*** |
| | (0.0024) | (0.0007) | (0.0039) | (0.0004) | (0.0008) | (0.0033) |
| Log Parent Income (Age 16–20) | 0.0071** | -0.0013 | 0.0170*** | 0.0001 | -0.0005 | -0.006 |
| | (0.0023) | (0.0007) | (0.0038) | (0.0003) | (0.0008) | (0.0033) |
| Log Parent Income (Age 21–25) | 0.0159*** | -0.0011 | 0.0298*** | -0.0002 | -0.001 | 0.0034 |
| | (0.0022) | (0.0007) | (0.0035) | (0.0003) | (0.0008) | (0.0031) |
| Mean DV | 0.5160 | 0.0151 | 0.0764 | 0.0046 | 0.0123 | 0.1802 |
| Adj. R-Squared | 0.16 | 0.03 | 0.27 | 0.01 | 0.03 | 0.15 |
| Observations | 5,148,000 | 5,148,000 | 4,395,000 | 4,395,000 | 5,148,000 | 5,148,000 |
| Families | 4,022,000 | 4,022,000 | 3,542,000 | 3,542,000 | 4,022,000 | 4,022,000 |

***Notes***: This table reports the effect of family income at different age intervals on various adult outcomes. Outcome variable definitions are provided in Section 3.3. This analysis uses data on children with always married parents which includes children born between 1988 and 1993 who were first claimed by married parents and did not divorce. Each column estimates the effect of divorce from Equation (5) in which ages are binned in five-year intervals using the fully specified model analogous to Column (5) of Table 2. This specification includes birth cohort fixed effects, family fixed effects, sex fixed effects, birth order fixed effects, and birth spacing fixed effects. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table 7:** Distance Between Parents After Divorce and Child Outcomes

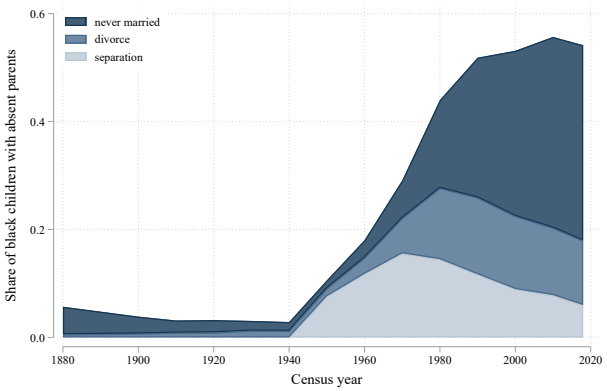
| | Mortality | | Teen Birth | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| *Post* | 0.000157*** | 0.000133*** | 0.00179*** | 0.00140*** |
| | (0.0000124) | (0.0000213) | (0.0000662) | (0.000119) |
| *Distance* | | 0.00000443 | | -0.0000201 |
| | | (0.00000489) | | (0.0000257) |
| *Post*×*Distance* | | 0.00000797 | | 0.000126*** |
| | | (0.00000552) | | (0.0000312) |
| R-Squared | 0.000 | 0.000 | 0.017 | 0.017 |
| Observations | 16,450,000 | 16,450,000 | 4,898,000 | 4,898,000 |

***Notes***: This table reports the estimated coefficients from the event study shown in Equation (7). This analysis uses our main dataset of children born between 1988 and 1993 who were initially claimed by married parents who later divorced. "Post" is a binary variable indicating the time period is after divorce. "Distance" measures the Euclidean distance between parental residences following divorce. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

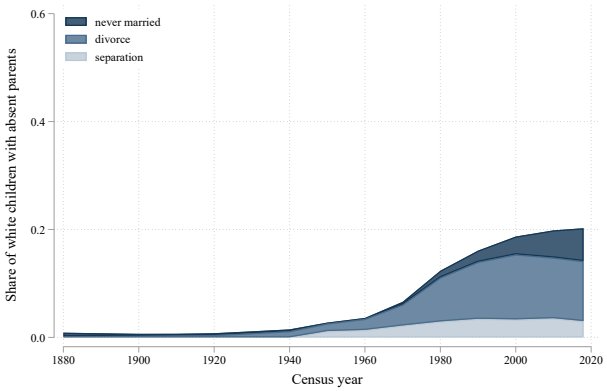
# Appendix Figures and Tables

**Figure A.1:** Fraction of Children Living in Single Parent Households by Race, 1880–2018

(a) Black

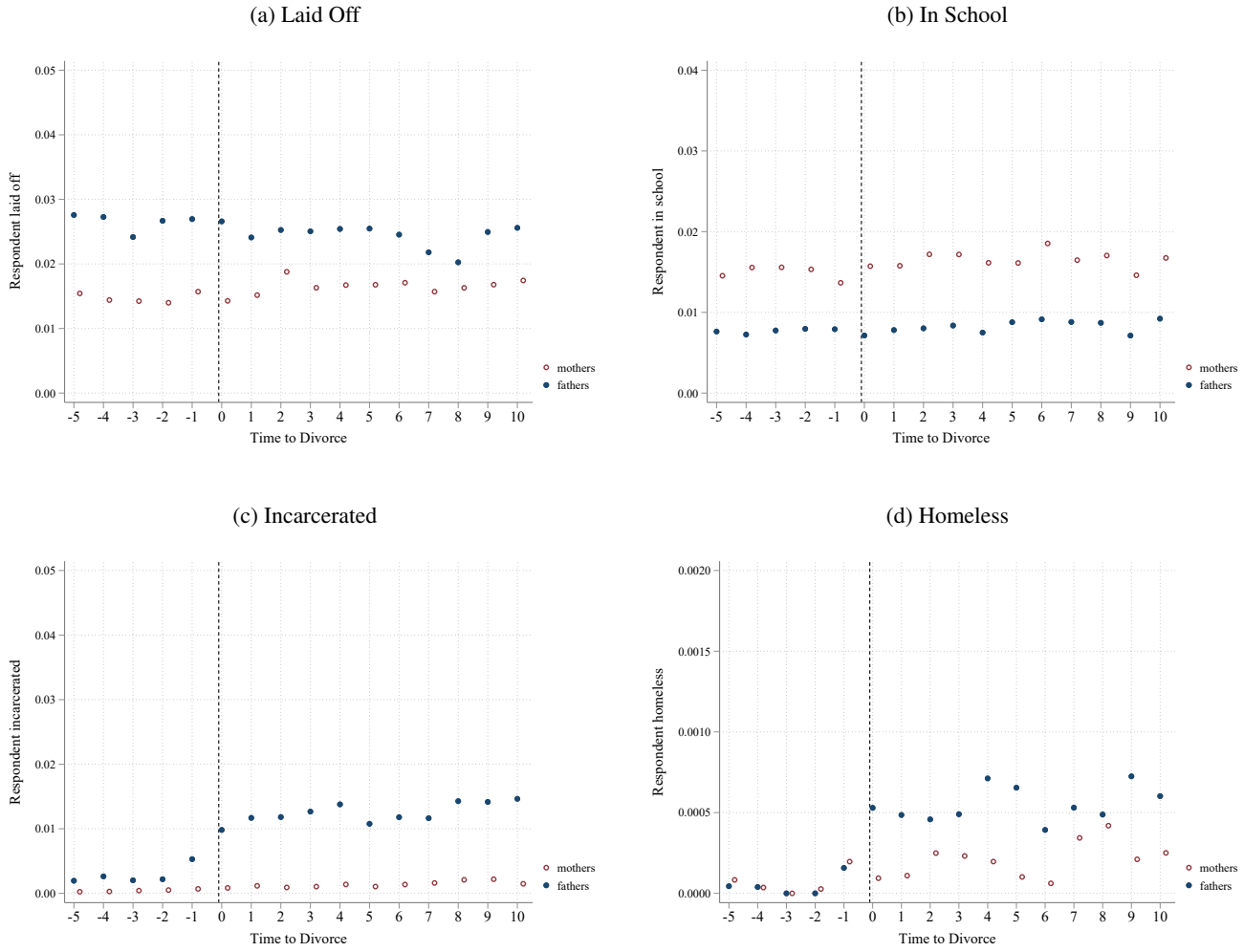



(b) White



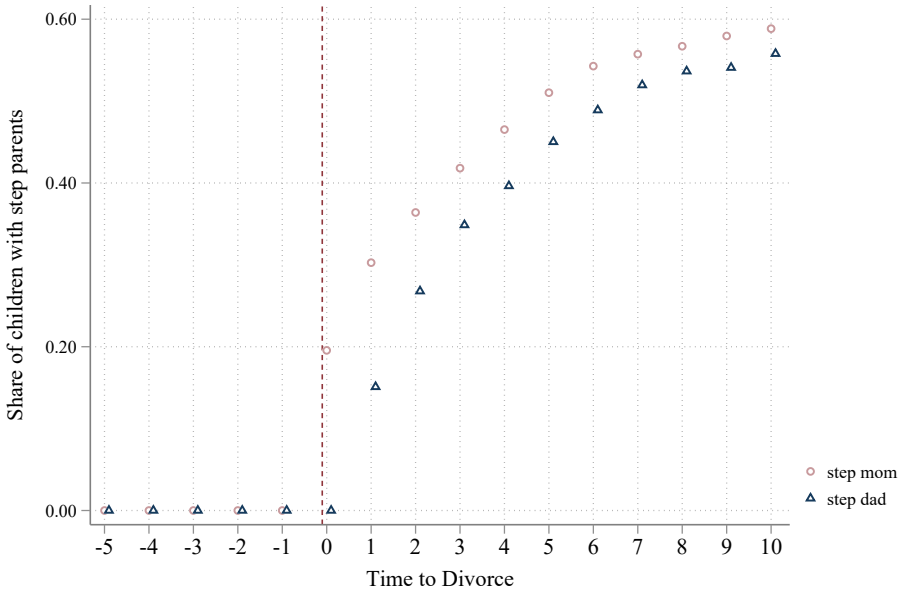

Notes: These figures display the percentage of children living with a single parent who is separated, divorced, or never married, by Census year. Panel (a) shows data for Black children, while Panel (b) shows data for White children. The data exclude children living with a divorced parent who has subsequently remarried. The colored regions represent different marital statuses of the single parent: never married (dark blue), divorced (medium blue), and separated (light blue). Source: Census data from 1880 to 2018. For analogous figures showing all children regardless of race, see Figure 2.

**Figure A.2:** Parental Circumstances Before and After Divorce by Sex




Notes: These panels track mothers (maroon) and fathers (navy) through various life circumstances in the years before and after divorce, with time 0 representing the year of divorce indicated by the vertical dotted line. Panel (a) shows the proportion experiencing job loss; Panel (b) shows educational enrollment; Panel (c) shows incarceration rates; and Panel (d) shows homelessness rates. The x-axis represents years relative to divorce (-5 to +10), while the y-axis shows the proportion of parents in each circumstance (note that scales differ across panels). Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

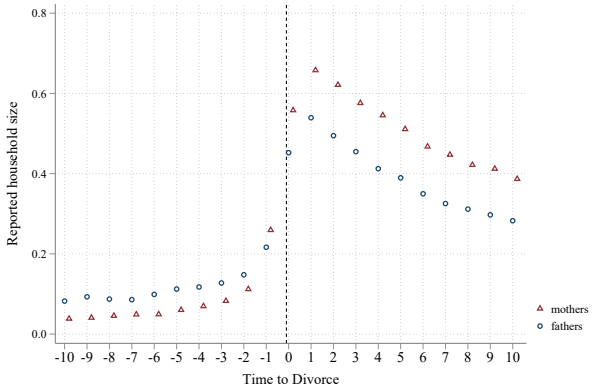
**Figure A.3:** Cumulative Step-Parent Presence Following Divorce



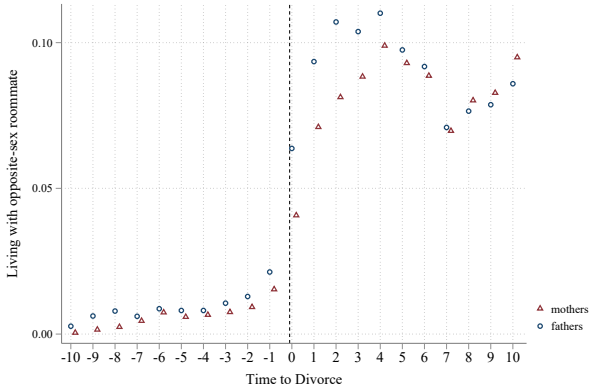

***Notes***: This figure displays the cumulative proportion of children who acquire a step-parent in the years following parental divorce, with time 0 representing the year of divorce (indicated by the vertical dotted line). The circles represent stepmothers, while the triangles represent stepfathers. By five years post-divorce, approximately 50% of children have a stepmother and 40% have a stepfather. Within ten years, these proportions increase to about 60% for stepmothers and 55% for stepfathers. The data reveal that children are more likely to gain a stepmother than a stepfather in the years immediately following divorce, though this gap narrows over time. Data from tax records based on parents' marital filing status. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure A.4:** Parental Living Arrangements Before and After Divorce

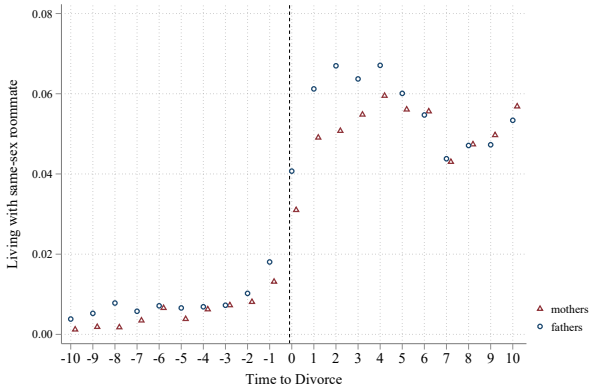
(a) Living with No Other Adult



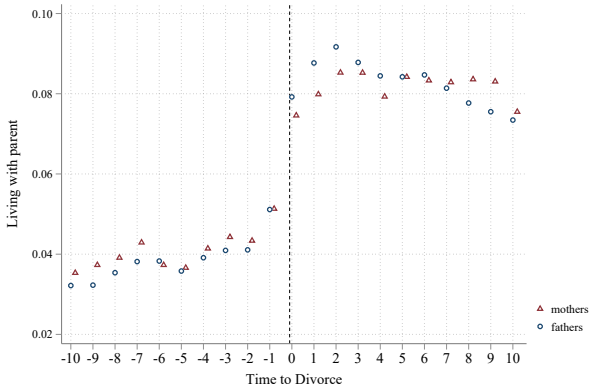

(b) Living with Opposite-Sex Roommate




(c) Living with Same-Sex Roommate



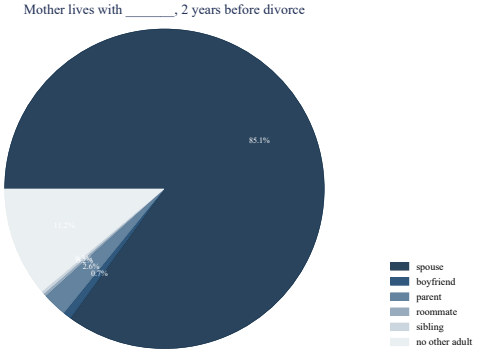

(d) Living with Parent



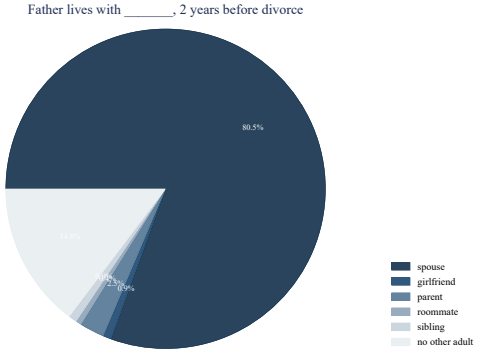

***Notes***: Each panel shows the proportion of mothers (red triangles) and fathers (blue circles) in different living arrangements from 10 years before to 10 years after divorce. Time zero represents the year of divorce (indicated by the dashed vertical line) identified by a change of status in tax records. Panel (a) shows parents living alone with no other adults; Panel (b) shows parents living with opposite-sex roommates, likely new sexual partners; Panel (c) shows parents living with same-sex roommates; and Panel (d) shows parents living with their own parents. Living arrangements are not mutually exclusive. Data from American Community Survey. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure A.5:** Living Arrangements Before and After Divorce

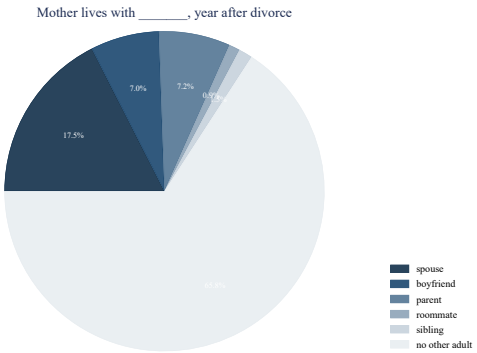
(a) Mother Living Arrangement, 2 Years Before Divorce



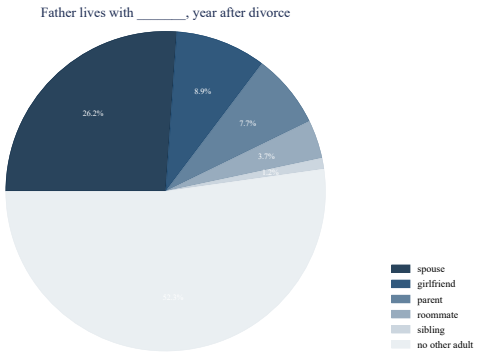

(b) Father Living Arrangement, 2 Years Before Divorce



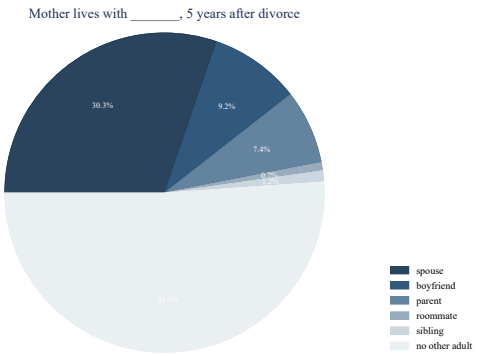

(c) Mother Living Arrangement, 1 year After Divorce



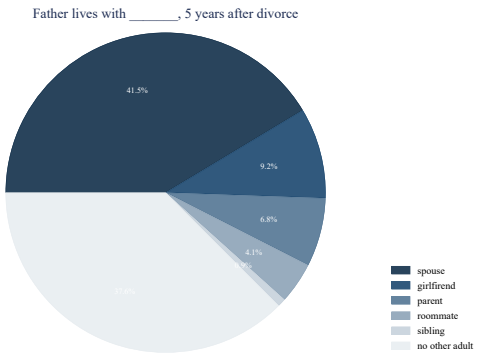

(d) Father Living Arrangement, 1 Year After Divorce




(e) Mother Living Arrangement, 5 Years After Divorce



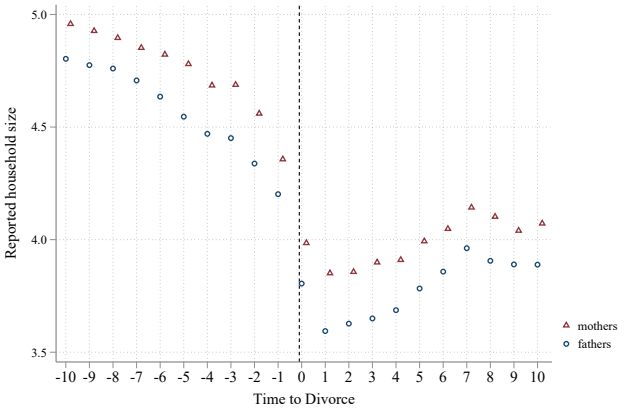

(f) Father Living Arrangement, 5 Years After Divorce



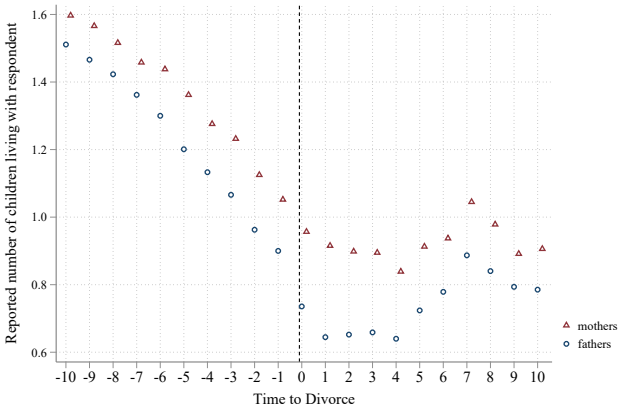

***Notes***: These pie charts display the distribution of living arrangements for mothers (left panels) and fathers (right panels) at three key points relative to divorce: two years before (panels a-b), one year after (panels c-d), and five years after (panels e-f). "No other adult" indicates the parent lives alone or only with children. The other categories show co-residence with various adults: spouse/partner, parent, roommate, other relative, or sibling. Living arrangement categories are constructed to be mutually exclusive, where the designated co-residence is the most common arrangement. Thus those living with spouses may also be living with, say, parents, but those designated as living with parents are not living with spouses. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure A.6:** Changes in Household Composition Before and After Divorce

(a) Household Size

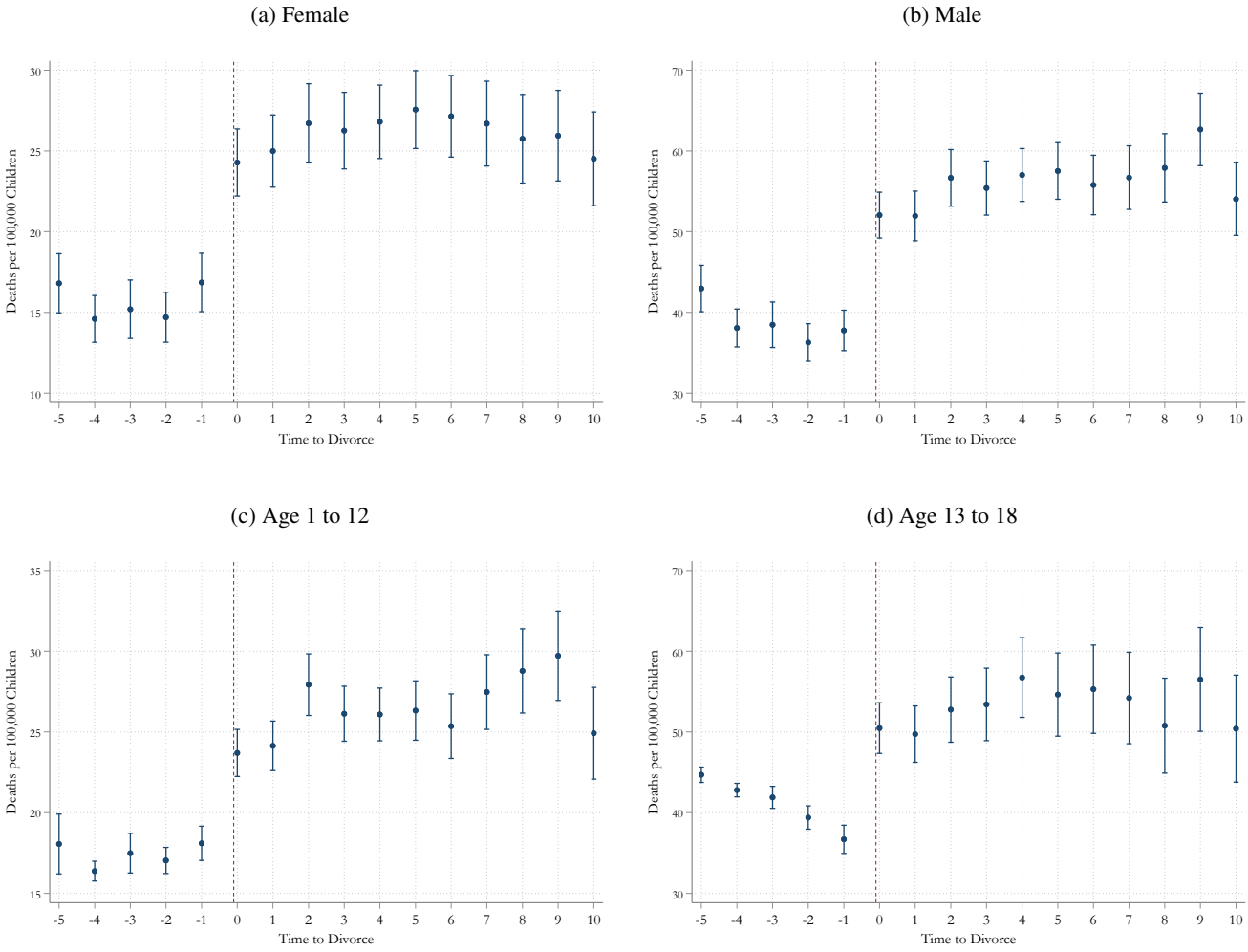



(b) Number of Child Co-Residents



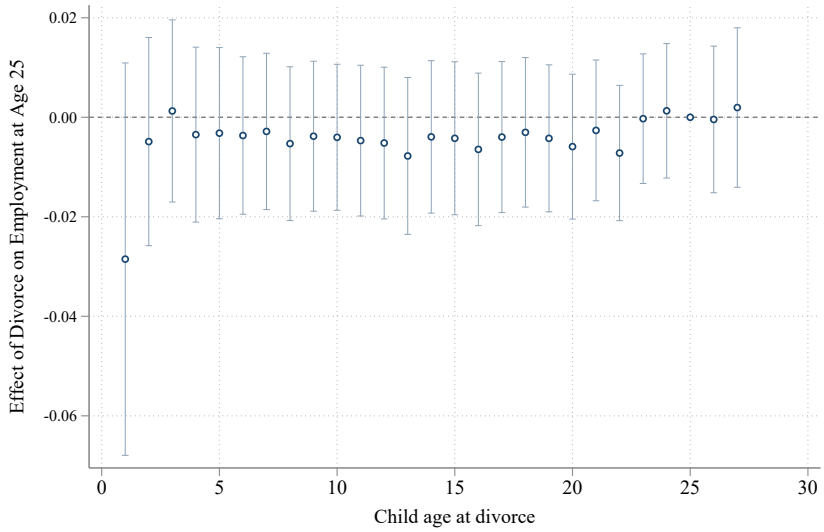

***Notes***: These panels track changes in living arrangements for mothers (red triangles) and fathers (blue circles) from 10 years before to 10 years after divorce, with time 0 representing the year of divorce (indicated by the dashed vertical line). Panel (a) shows total household size (including all residents), while panel (b) shows specifically the number of co-resident children. The data reveal a sharp decline in household size at divorce for both parents. Notably, family size stops its natural decline after divorce, presumably as parents add new dependents from marriage and births with a new partner. Data from American Community Survey. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Figure A.7:** Event Studies on Child Mortality by Sex and Age




***Notes***: These panels show event study plots of child mortality before and after parental divorce, with 0 representing the year of the divorce. The data are shown separately by sex (panels a–b) and age group (panels c–d). Each point represented the adjusted mortality rate with 95% confidence intervals. The mortality rates have been residualized to account for age and birth cohort fixed effects, with group specific means added back for interpretation. The sample includes children born between 1988 and 1993 who were initially claimed as dependents by married parents who later divorced. The figure reveals a notable increase in mortality risk following parental divorce across all subgroups. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-0281.

**Figure A.8:** Effects of Divorce by Age on Working at Age 25




***Notes***: This figure plots estimated coefficients showing the impact of parental divorce on employment status at age 25, based on the child's age when the divorce occurred (x-axis). Each point represents the estimated effect with corresponding 95% confidence intervals. The horizontal dotted line at zero represents no effect. The sample includes individuals born between 1988 and 1993 who were initially claimed as dependents by married parents who subsequently divorced. The results suggest that experiencing parental divorce at age 0–1 may have a larger negative impact on future employment prospects, while the effects for those experiencing divorce at other ages are smaller and generally not statistically distinguishable from zero. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010. DRB approval number: CBDRB-FY23-0281.

**Table A.1:** Effect of Divorce by Income Tercile

| | Income Rank (3) | Teen Birth (1) | College (2) | Incarcerated (5) | Mortality (5) | Married (6) |
|---|---|---|---|---|---|---|
| Divorce (Age 0–5) | -0.0266** | 0.0102*** | -0.113*** | 0.00262 | 0.00476 | -0.00477 |
| | (0.00948) | (0.00258) | (0.0104) | (0.00138) | (0.00295) | (0.0126) |
| Divorce (Age 0–5) x Middle-Income | -0.00633 | -0.000237 | 0.0266* | 0.00113 | -0.00132 | 0.00138 |
| | (0.0122) | (0.00332) | (0.0129) | (0.00171) | (0.0038) | (0.0166) |
| Divorce (Age 0–5) x Low-Income | 0.0183 | -0.0056 | 0.148*** | -0.00329 | -0.00142 | -0.003 |
| | (0.0138) | (0.00463) | (0.013) | (0.00212) | (0.00424) | (0.0192) |
| Divorce (Age 6–10) | -0.008 | 0.00834*** | -0.0533*** | 0.00246* | 0.00422 | -0.0117 |
| | (0.00849) | (0.00222) | (0.00975) | (0.00119) | (0.00269) | (0.0112) |
| Divorce (Age 6–10) x Middle-Income | -0.0196 | 0.000895 | -0.0107 | 0.00169 | -0.00202 | 0.00122 |
| | (0.0112) | (0.00298) | (0.0123) | (0.00152) | (0.00354) | (0.0152) |
| Divorce (Age 6–10) x Low-Income | 0.000352 | -0.00203 | 0.0765*** | -0.00167 | -0.00188 | 0.00442 |
| | (0.013) | (0.00437) | (0.0125) | (0.00198) | (0.00403) | (0.0181) |
| Divorce (Age 11–15) | -0.00713 | 0.00841*** | -0.0665*** | 0.00173 | 0.0026 | -0.00914 |
| | (0.00836) | (0.00213) | (0.00961) | (0.00114) | (0.00266) | (0.011) |
| Divorce (Age 11–15) x Middle-Income | -0.015 | 0.000277 | 0.00331 | 0.00187 | -0.00109 | 0.000949 |
| | (0.0111) | (0.00289) | (0.0121) | (0.00147) | (0.00351) | (0.015) |
| Divorce (Age 11–15) x Low-Income | -0.000728 | -0.000234 | 0.0804*** | -0.000402 | -0.00146 | -0.0012 |
| | (0.0129) | (0.00432) | (0.0123) | (0.00195) | (0.004) | (0.0179) |
| Divorce (Age 16–20) | -0.00451 | 0.00629*** | -0.0605*** | 0.00161 | 0.00329 | -0.00575 |
| | (0.00794) | (0.0019) | (0.00914) | (0.00105) | (0.0025) | (0.0103) |
| Divorce (Age 16–20) x Middle-Income | -0.0112 | -0.00109 | 0.00465 | 0.00142 | -0.00275 | -0.00143 |
| | (0.0105) | (0.00258) | (0.0115) | (0.00132) | (0.00329) | (0.0142) |
| Divorce (Age 16–20) x Low-Income | -0.000121 | -0.00301 | 0.0677*** | 0.0000709 | -0.00133 | -0.00602 |
| | (0.0124) | (0.0041) | (0.0118) | (0.00183) | (0.00382) | (0.0173) |
| Divorce (Age 21–25) | -0.00286 | 0.00421** | -0.0261*** | 0.00103 | 0.00117 | -0.00669 |
| | (0.0066) | (0.00151) | (0.00777) | (0.000884) | (0.00209) | (0.0086) |
| Divorce (Age 21–25) x Middle-Income | -0.00545 | -0.00252 | -0.00403 | 0.000711 | -0.000953 | -0.00145 |
| | (0.00885) | (0.00209) | (0.00987) | (0.0011) | (0.00278) | (0.012) |
| Divorce (Age 21–25) x Low-Income | -0.000328 | -0.00392 | 0.0359*** | -0.000927 | 0.000517 | -0.00579 |
| | (0.0106) | (0.00355) | (0.0101) | (0.00156) | (0.0033) | (0.0149) |
| Adj. R-Squared | 0.18 | 0.00 | 0.16 | 0.10 | 0.05 | 0.12 |
| Observations | 4,552,000 | 5,329,000 | 4,439,000 | 4,439,000 | 5,329,000 | 4,552,000 |
| Families | 3,519,000 | 3,926,000 | 3,408,000 | 3,408,000 | 3,926,000 | 3,519,000 |

***Notes***: This table reports the heterogeneous effects of parental divorce by child age and family income tercile on adult employment outcomes. The analysis uses our main sample of children born between 1988 and 1993 who were initially claimed by married parents who subsequently divorced. We estimate the effects using Equation (4), where children's ages at divorce are grouped into five-year intervals (0–4, 5–9, etc.) and interacted with parent family income tercile. The regression includes birth cohort, family, sex, birth order, and birth spacing fixed effects, corresponding to the fully specified model in Column (5) of Table 2. Detailed descriptions of all outcome variables are provided in Section 3.3. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table A.2:** Effect of Divorce by Race

| | Log Income (1) | Teen Birth (2) | College (3) | Incarcerated (4) | Mortality (5) | Married (6) |
|---|---|---|---|---|---|---|
| Divorce (Age 0–5) | -0.0245*** | 0.0106*** | -0.0800*** | 0.00275** | 0.00315 | -0.000478 |
| | (0.00643) | (0.00194) | (0.00666) | (0.000932) | (0.00202) | (0.00906) |
| Divorce (Age 0–5) x Black | 0.00643 | -0.00208 | 0.0296 | -0.00968 | -0.0029 | -0.0104 |
| | (0.0189) | (0.00682) | (0.0222) | (0.00524) | (0.00744) | (0.0235) |
| Divorce (Age 0–5) x Hispanic | 0.00638 | -0.00934 | 0.102*** | -0.00113 | 0.00139 | -0.0032 |
| | (0.0133) | (0.0056) | (0.0115) | (0.00216) | (0.00441) | (0.0185) |
| Divorce (Age 0–5) x Asian | 0.0396 | -0.0014 | 0.0312 | 0.00165 | 0.00168 | 0.0157 |
| | (0.0249) | (0.00587) | (0.0234) | (0.00279) | (0.00601) | (0.0289) |
| Divorce (Age 0–5) x Other | 0.0155 | -0.00425 | 0.0689 | -0.00782 | 0.00981 | 0.0131 |
| | (0.0211) | (0.00768) | (0.0411) | (0.00818) | (0.00949) | (0.0274) |
| Divorce (Age 6–10) | -0.0189*** | 0.00968*** | -0.0546*** | 0.00289*** | 0.00253 | -0.0062 |
| | (0.00575) | (0.00167) | (0.0062) | (0.000831) | (0.00182) | (0.00807) |
| Divorce (Age 6–10) x Black | -0.00241 | 0.00104 | 0.00615 | -0.00479 | -0.00265 | -0.0114 |
| | (0.0185) | (0.00668) | (0.022) | (0.00517) | (0.00735) | (0.023) |
| Divorce (Age 6–10) x Hispanic | 0.00517 | -0.00604 | 0.0670*** | -0.000587 | 0.000522 | 0.00153 |
| | (0.0126) | (0.00531) | (0.0112) | (0.00204) | (0.00424) | (0.0175) |
| Divorce (Age 6–10) x Asian | 0.0361 | 0.000579 | 0.0376 | 0.000694 | 0.00137 | 0.0195 |
| | (0.0222) | (0.00538) | (0.0221) | (0.00256) | (0.00563) | (0.0253) |
| Divorce (Age 6–10) x Other | 0.0278 | -0.00381 | 0.0474 | -0.00563 | 0.00532 | 0.0213 |
| | (0.0204) | (0.00729) | (0.0405) | (0.00767) | (0.00914) | (0.0263) |
| Divorce (Age 11–15) | -0.0176** | 0.00979*** | -0.0608*** | 0.00271*** | 0.0017 | -0.00525 |
| | (0.00558) | (0.00157) | (0.00598) | (0.000779) | (0.00176) | (0.00787) |
| Divorce (Age 11–15) x Black | 0.00569 | 0.00183 | 0.0166 | -0.00423 | -0.00351 | -0.0103 |
| | (0.0188) | (0.00675) | (0.0221) | (0.00525) | (0.00738) | (0.0233) |
| Divorce (Age 11–15) x Hispanic | 0.00589 | -0.00425 | 0.0660*** | -0.000541 | 0.00021 | -0.00659 |
| | (0.0127) | (0.00536) | (0.0111) | (0.00205) | (0.00425) | (0.0176) |
| Divorce (Age 11–15) x Asian | 0.0283 | -0.00124 | 0.0389 | -0.000396 | 0.00159 | 0.0165 |
| | (0.0223) | (0.00546) | (0.0219) | (0.00248) | (0.00563) | (0.0254) |
| Divorce (Age 11–15) x Other | 0.0295 | -0.00212 | 0.0529 | -0.00147 | 0.00139 | 0.025 |
| | (0.0208) | (0.00756) | (0.0407) | (0.00792) | (0.00932) | (0.027) |
| Divorce (Age 16–20) | -0.0126* | 0.00586*** | -0.0554*** | 0.00229** | 0.00172 | -0.00626 |
| | (0.00529) | (0.00141) | (0.00567) | (0.000698) | (0.00165) | (0.00747) |
| Divorce (Age 16–20) x Black | -0.00209 | 0.00126 | 0.0237 | -0.00399 | -0.0022 | -0.0191 |
| | (0.0187) | (0.00661) | (0.0217) | (0.00517) | (0.00729) | (0.0231) |
| Divorce (Age 16–20) x Hispanic | 0.00942 | -0.00362 | 0.0561*** | 0.000836 | -0.000688 | 0.00417 |
| | (0.0125) | (0.00526) | (0.0107) | (0.00188) | (0.00415) | (0.0175) |
| Divorce (Age 16–20) x Asian | 0.0173 | 0.00139 | 0.0274 | 0.00093 | 0.00177 | 0.0175 |
| | (0.0219) | (0.00508) | (0.021) | (0.00232) | (0.00544) | (0.0247) |
| Divorce (Age 16–20) x Other | 0.0242 | -0.00358 | 0.0407 | -0.00176 | 0.00319 | 0.0153 |
| | (0.021) | (0.0074) | (0.0398) | (0.00767) | (0.00938) | (0.0273) |
| Divorce (Age 21–25) | -0.00693 | 0.00295** | -0.0273*** | 0.00136* | 0.000838 | -0.00937 |
| | (0.00447) | (0.00111) | (0.00485) | (0.000554) | (0.00139) | (0.00634) |
| Divorce (Age 21–25) x Black | -0.000575 | 0.000153 | 0.0213 | -0.00539 | -0.00117 | -0.00102 |
| | (0.0172) | (0.00589) | (0.0195) | (0.0048) | (0.00671) | (0.0208) |
| Divorce (Age 21–25) x Hispanic | 0.00464 | -0.00407 | 0.0327*** | -0.000185 | 0.000258 | 0.00662 |
| | (0.0114) | (0.00484) | (0.00935) | (0.00156) | (0.00369) | (0.0159) |
| Divorce (Age 21–25) x Asian | 0.0192 | 0.000826 | 0.0154 | 0.000124 | 0.00117 | 0.0164 |
| | (0.0197) | (0.00424) | (0.0183) | (0.0019) | (0.00483) | (0.0216) |
| Divorce (Age 21–25) x Other | 0.00701 | -0.00538 | 0.0184 | 0.000543 | 0.00032 | 0.00913 |
| | (0.0205) | (0.00714) | (0.0370) | (0.00711) | (0.00913) | (0.0267) |
| Adj. R-Squared | 0.18 | 0.00 | 0.16 | 0.10 | 0.05 | 0.12 |
| Observations | 4,552,000 | 5,329,000 | 4,439,000 | 4,439,000 | 5,329,000 | 4,552,000 |
| Families | 3,519,000 | 3,926,000 | 3,408,000 | 3,408,000 | 3,926,000 | 3,519,000 |

***Notes***: This table reports the effect of divorce at different age intervals by race and ethnicity on various adult outcomes. How each outcome variable is constructed is described in Section 3.3. This analysis uses our main data set which includes children born between 1988 and 1993 who were first claimed by married parents who subsequently divorced. Each column estimates the effect of divorce from Equation (4) in which ages are binned in five-year intervals and interacted with indicators for race and ethnicity using the fully specified model analogous to Column (5) of Table 2. This specification includes fixed effects for birth cohort, family, sex, birth order, and birth spacing. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table A.3:** Effect of Divorce by Sex

| | Income Rank (1) | Teen Birth (2) | College (3) | Incarcerated (4) | Mortality (5) | Married (6) |
|---|---|---|---|---|---|---|
| Divorce (Age 0–5) | -0.0275*** | 0.0151*** | -0.0697*** | 0.00188* | 0.00442* | -0.0159 |
| | (0.0068) | (0.0023) | (0.0071) | (0.0009) | (0.00200) | (0.0095) |
| Divorce (Age 0–5) x Male | 0.00595 | -0.0120*** | 0.0176* | 0.000433 | 0.00110 | 0.0241** |
| | (0.0067) | (0.0022) | (0.0073) | (0.0011) | (0.00222) | (0.0093) |
| Divorce (Age 6–10) | -0.0224*** | 0.0132*** | -0.0492*** | 0.00223** | 0.00402* | -0.0165 |
| | (0.0061) | (0.0020) | (0.0067) | (0.0007) | (0.00181) | (0.0087) |
| Divorce (Age 6–10) x Male | 0.00755 | -0.00809*** | 0.00982 | 0.00115 | -0.00227 | 0.0183* |
| | (0.0063) | (0.0020) | (0.0071) | (0.0010) | (0.00210) | (0.0087) |
| Divorce (Age 11–15) | -0.0193** | 0.0134*** | -0.0557*** | 0.00239*** | 0.00276 | -0.0131 |
| | (0.0060) | (0.0020) | (0.0065) | (0.0007) | (0.00177) | (0.0085) |
| Divorce (Age 11–15) x Male | 0.00645 | -0.00762*** | 0.0121 | 0.00041 | -0.00197 | 0.0123 |
| | (0.0065) | (0.0021) | (0.0072) | (0.0010) | (0.00216) | (0.0090) |
| Divorce (Age 16–20) | -0.0118* | 0.00708*** | -0.0496*** | 0.00244*** | 0.00286 | -0.0104 |
| | (0.0058) | (0.0019) | (0.0063) | (0.0006) | (0.00167) | (0.0083) |
| Divorce (Age 16–20) x Male | 0.00178 | -0.00282 | 0.0074 | -0.000101 | -0.00210 | 0.00759 |
| | (0.0066) | (0.0021) | (0.0074) | (0.0010) | (0.00218) | (0.0092) |
| Divorce (Age 21–25) | -0.00705 | 0.00217 | -0.0242*** | 0.00166** | 0.00215 | -0.00994 |
| | (0.0053) | (0.0017) | (0.0059) | (0.0006) | (0.00148) | (0.0076) |
| Divorce (Age 21–25) x Male | 0.00231 | 0.0004 | 0.00486 | -0.000964 | -0.00238 | 0.0037 |
| | (0.0068) | (0.0021) | (0.0077) | (0.0010) | (0.00224) | (0.0095) |
| Adj. R-Squared | 0.18 | 0.00 | 0.16 | 0.10 | 0.05 | 0.12 |
| Observations | 4,552,000 | 5,329,000 | 4,439,000 | 4,439,000 | 5,329,000 | 4,552,000 |
| Families | 3,519,000 | 3,926,000 | 3,408,000 | 3,408,000 | 3,926,000 | 3,519,000 |

***Notes***: This table presents the differential effect of divorce by sex on various adult outcomes. We analyze children born between 1988-1993 who were initially claimed by married parents who later divorced. Outcome variables are defined in Section 3.3. Each column reports estimates from Equation (4), which bins divorce ages into five-year intervals and interacts them with a male indicator. All models include the full set of controls from Column (5) of Table 2: birth cohort, family, sex, birth order, and birth spacing fixed effects. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.

**Table A.4:** Effect of Divorce for Additional Outcomes

| | Group Home 2010 (1) | Psychiatric Home 2010 (2) | Military 2010 (3) |
|---|---|---|---|
| Divorce (Age 0–5) | 0.000284 | 0.0000194 | 0.0019 |
| | (0.000316) | (0.0000925) | (0.00147) |
| Divorce (Age 6–10) | 0.000208 | 0.0000296 | 0.00149 |
| | (0.000275) | (0.000079) | (0.00133) |
| Divorce (Age 11–15) | 0.00016 | 0.0000355 | 0.00131 |
| | (0.000261) | (0.0000736) | (0.00128) |
| Divorce (Age 16–20) | 0.000099 | 0.00000494 | 0.000922 |
| | (0.000232) | (0.0000689) | (0.0012) |
| Divorce (Age 21–25) | -0.0000386 | 0.0000347 | 0.000318 |
| | (0.000182) | (0.0000589) | (0.00101) |
| Adj. R-Squared | 0.07 | 0.08 | -0.02 |
| Observations | 5,329,000 | 5,329,000 | 5,329,000 |
| Families | 3,926,000 | 3,926,000 | 3,926,000 |

***Notes***: This table reports the effect of divorce at different age intervals on additional long-term outcomes. Analysis uses our main data set of children born between 1988 and 1993 initially claimed by married parents who later divorced. Each column presents estimates from Equation (4) with five-year age bins, using the full specification from Column (5) of Table 2, which includes birth cohort, family, sex, birth order, and birth spacing fixed effects. * $p<0.05$, ** $p<0.01$, *** $p<0.001$. Source: Census Numident; IRS Forms 1040, 1099, and W-2; Decennial Census 2000 and 2010; and American Community Survey. DRB approval number: CBDRB-FY23-CES014-0185.