The Child Cost Index*

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Abstract

Fertility has declined sharply in recent decades, and surveys consistently identify the cost of children as a primary reason. Yet there is little systematic evidence on how the overall cost of raising children has evolved over time. We construct a Child Cost Index (CCI) that combines the monetary cost of child-specific goods and services with the opportunity cost of parental time from 1990 to 2023. We find that the price of children has risen at roughly the same rate as the price level faced by adults without children. The widely documented increase in childcare and tuition costs is largely offset by children's lower exposure to other categories with rapidly rising prices, particularly housing and medical care. Incorporating parental time increases the cost of children during periods of strong wage growth, but this effect reverses when inflation outpaces wages. These results suggest that recent fertility declines are difficult to explain by a large increase in the relative price of children and instead point to a possible role for front-loaded, salient costs.

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1 Introduction

Fertility has fallen sharply across countries, including the United States. Surveys consistently point to the cost of children as a primary reason for this decline (New York Times/Morning Consult, 2018; Pew Research Center, 2024; OECD, 2024). Yet despite the centrality of this explanation, economists do not have a clear measure of the cost of children over time. Existing work largely focuses on individual cost components, such as childcare prices, housing costs, or the earnings penalty from motherhood (Dow, 2026; van Wijk and Feijten, 2025; Kleven et al., 2019). But children are not a single line item in the household budget, and they require a bundle of goods, services, and parental time. Price growth in one salient category may be offset by slower growth in others. Without a comprehensive index that aggregates across all child-related inputs, it is difficult to know whether the overall cost of raising a child has in fact risen.

This paper constructs that missing object. We build a Child Cost Index (CCI) that combines the monetary cost of child-specific goods and services with the opportunity cost of parental time, and track both components from 1990 to 2023. In models of fertility, the relevant price is not the price of daycare or tuition in isolation, but the price of children relative to other forms of consumption. Our central finding is that this relative price has risen much less than the public discussion would suggest. The monetary cost of raising children has increased at roughly the same pace as the price level faced by adults without children. The dramatic rise in childcare and tuition costs is largely offset by children's lower exposure to other categories with rapidly rising prices, especially housing and medical care. When we add parental time, the full CCI rises somewhat faster through the mid-2000s, driven by strong wage growth for women, but then converges back toward adult prices as wage growth moderates. Children are expensive, but using the standard tools economists apply to measure price change over time, there is little evidence that their relative price has increased dramatically.

This result is surprising precisely because the child-related prices that are most visible to households have risen so quickly. The prices of childcare and tuition have risen much faster than the pace of overall inflation, and these categories loom large in how households describe the affordability of children. But they are only part of the child-rearing bundle. Once one aggregates across the full set of goods and services associated with children, the rise in these salient categories is largely offset by slower growth or lower expenditure shares elsewhere. The resulting picture is very different from one in which the price of a fixed child-rearing bundle has pulled away from the price of adult consumption.

We conceptualize the cost of children as having two components: the monetary cost of the goods and services children require, and the time parents devote to raising them. We measure the goods-and-services component using the Consumer Expenditure Survey (CEX), developing allocation rules that map household expenditures to children across categories. We measure the time component using the Current Population Survey (CPS) and the pseudo-event study approach in Kleven (2025) to estimate how a first child affects parents' labor supply and earnings. This allows us to assign a price to parental time that captures not only the wage on the

marginal hour not worked, but also broader effects of parenthood on earnings growth and career progression. We then combine goods and time into a single Törnqvist-style chained index, which allows expenditure shares to vary over time. For comparison, we construct an analogous index for married couples without children, which provides the relevant adult-consumption benchmark.

We find four main patterns. First, focusing only on goods and services, the monetary cost of raising children has risen at roughly the same pace as prices faced by adults without children. Both indices approximately doubled between 1990 and 2023. This pattern also holds across the income distribution: despite meaningful differences in spending composition, overall child-cost inflation is nearly identical across income groups because of offsetting forces.

Second, the similarity between child and adult price growth reflects large countervailing movements across categories. Tuition and childcare prices have risen far faster than overall inflation, pushing up the child index. But children have lower spending shares in categories such as housing and medical care, which also became much more expensive over this period. Because children are assigned a smaller share of housing costs than adults, rapid housing inflation raises the adult index more, offsetting much of the tuition effect. Using fixed rather than time-varying expenditure weights produces a substantially higher index, suggesting that families have partly insulated themselves from cost pressures by reallocating spending toward categories with more moderate price growth.

Third, turning to time costs, we find that the price of each hour of foregone work rose by around 135 percent for women, while the total dollar value of the earnings loss grew more slowly. This implies that women were reducing labor supply by a smaller margin in later years even as the value of each penalized hour rose. Put differently, the intensive-margin price of parental time increased, but the quantity of foregone work fell.

Fourth, combining the time and monetary components, the full CCI rises faster than the goods-only index through 2010, driven by growth in women's wages during the 1990s and early 2000s. This raised the opportunity cost of time with children and made children temporarily more expensive relative to adult consumption. After the mid-2000s, however, wage growth moderated and the two indices converged. By 2020, the full child cost index suggests that the price of a child is only about 10 percent higher than the average good purchased by couples without children. Taken together, these results suggest that while the broader cost of raising children has risen somewhat more than the cost of goods alone, the relative price of children has remained far flatter than the salience of childcare and tuition costs would suggest.

One caveat is that, currently, the CCI does not measure the value of foregone leisure, even though a non-trivial fraction of the time parents devote to childcare comes from leisure rather than market work. To probe this possibility, we measure the impact of having a child on parents' leisure time. Although children do displace leisure, the amount of leisure displaced has not increased meaningfully over time. It remains possible, however, that the value of foregone leisure has risen over time as the price of leisure has fallen (Aguiar et al., 2021a). We aim to incorporate this in future work.

Our methodology uses the standard tools economists apply to measure relative price changes over time. The implication is that the post-2000 decline in fertility is difficult to rationalize with a story in which the price of a fixed child-rearing bundle rose dramatically. At the same time, our results do not imply that costs are irrelevant for fertility decisions. Rather, they suggest

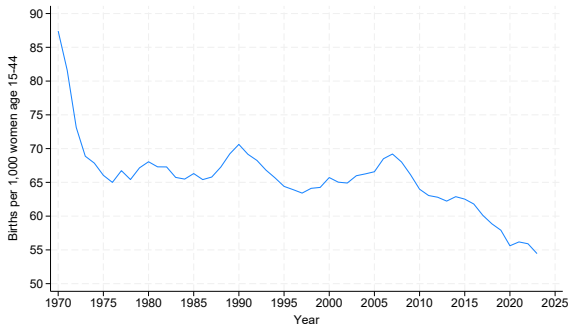
that the mechanism is more subtle than a simple increase in the relative price of children. We therefore conclude by discussing several forces that may help reconcile stable measured relative prices with the widespread perception that children have become less affordable. First, while relative prices have been stable, real spending per child may have risen because parents choose to devote more resources to children today than in the past. Indeed, we find that spending per child has increased by about 50% since 1990. However, real spending per parent has also risen by a similar amount, suggesting that this reflects general income growth rather than children uniquely requiring more spending. Second, even if lifetime child costs are stable in the aggregate, they are heavily front-loaded into the early years, precisely when young households are at low points in their earnings profiles and are most likely to be credit constrained. Consistent with this mechanism, we find that the price index for children aged 0-5 has risen more than the price index for children 6 and older. Finally, college tuition costs, which are not included in our child cost index, may affect parents' perceptions of the cost of children. That said, although the "sticker price" of tuition has increased, the actual cost incurred by most families has risen much less.

This paper contributes to three distinct literatures. First, it contributes to the literature on fertility trends. Several early models predict that fertility declines as women face better labor market opportunities (Becker, 1960; Mincer, 1963; Greenwood et al., 2005; Galor, 2010). A number of empirical papers support this hypothesis, showing that women delay fertility when their education and labor market opportunities improve, conditional on having the technology to do so, such as improved contraceptive options (Goldin and Katz, 2002; Miller, 2011). However, improved contraceptives and labor market opportunities largely explain the fertility decline from the 1960s through the late 1970s. Kearney et al. (2022) argue that these conventional explanations cannot account for the decline in U.S. fertility since the mid-2000s, and instead emphasize "shifting priorities" among more recent cohorts, including the rise of intensive parenting norms and a greater emphasis on personal fulfillment. A prerequisite before turning to such explanations, however, is to measure the relevant economic price object: whether changes in the cost of children, including opportunity costs, can themselves account for recent fertility trends. Existing papers on the cost of children largely focus on a single cost (Couillard, 2025; Dow, 2025). This paper creates a full cost index to understand which components of child-rearing have become more expensive.

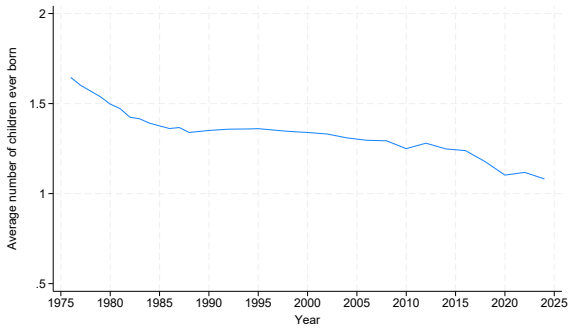
Second, our framework connects to the macroeconomic and public finance literature that constructs household-specific inflation measures using heterogeneity in expenditure shares across groups (Hobijn et al., 2009; Jaravel, 2021). This literature shows that measured inflation can differ meaningfully across households by income, age, and other characteristics, with important implications for welfare and inequality. Our contribution is to apply that logic to a demographic object—children—rather than to conventional household types, and to do so in a way that explicitly incorporates non-market time inputs. In that sense, the paper provides a missing price series for quantitative work on fertility and household choice.

Finally, the paper relates to the literature on equivalence scales and the cost of children. That literature asks how much additional expenditure a household requires to attain the same level of welfare after adding a child, often using Engel-curve or Rothbarth-style approaches (Rothbarth, 1943; Deaton and Zaidi, 2002). Our object is different. We do not seek to recover

Figure 1: Fertility Trends in the United States



(a) General fertility rate (ages 15–44), 1990–2023 *Source:* National Vital Statistics and SEER Population Data



(b) Average number of children per woman (aged 18+) *Source:* Current Population Survey – Fertility Supplement

the welfare-equivalent scale associated with a child at a point in time. Instead, we seek to measure the evolution over time of the price of a given child-rearing bundle. In this sense, our exercise is closer to cost-of-living measurement than to the traditional estimation of equivalence scales, even though the underlying economic question is related. This distinction is important because it allows us to isolate the extent to which relative prices have changed.

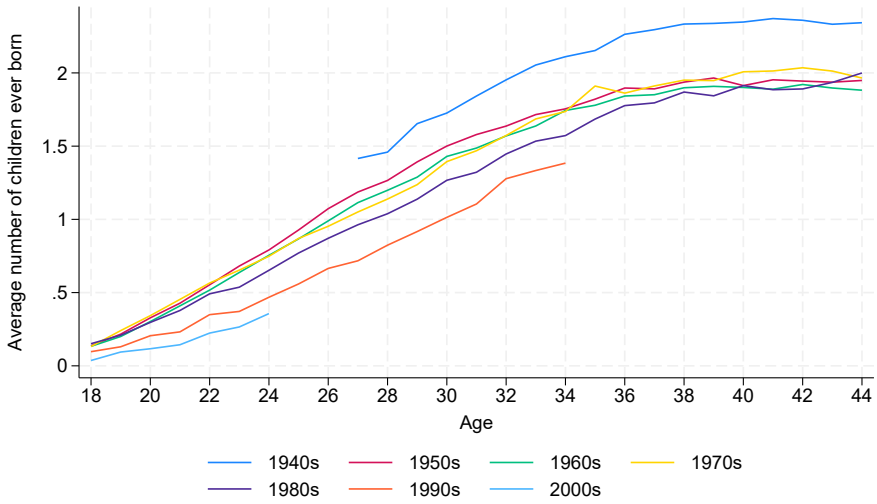
The remainder of the paper is structured as follows. We begin by documenting fertility trends over time and by cohort in the United States in Section 2. We provide an overview of our measurement goals and the Child Cost Index (CCI) in Section 3. Section 4 describes the data and methodology used to construct the components of the CCI, and Section 5 presents our main results. We discuss what the child cost index may be missing in Section 6 and conclude in Section 7.

2 Fertility Trends

We begin by documenting the key features of fertility patterns in the United States that motivate our analysis. Figure 1 summarizes the broad decline in fertility over the past several decades. Panel (a) shows that the general fertility rate—the number of live births per 1,000 women aged 15–44—has trended downward since the 1970s, with particularly sharp declines in the early 1970s and again since the mid-2000s. Panel (b) shows that the average number of children per woman has fallen from roughly 1.7 to 1.2 over a similar period. A central question is whether this decline reflects fewer women having children, delays in childbearing, or both (Kearney et al., 2022).

To distinguish between these possibilities, Figure 2 plots completed fertility by birth cohort over the life cycle. For cohorts born in the 1950s through the 1980s, fertility at younger ages declined, but this largely reflects delayed childbearing rather than fewer total births. By age 44, women in these cohorts had similar numbers of children, indicating substantial catch-up at later ages. In other words, much of the earlier decline in fertility reflects timing rather than completed fertility.

Figure 2: Average number of children per woman by birth cohorts



Notes: Current Population Survey - Fertility Supplement. Fertility Supplement of the CPS is conducted every two years. Data of 1996 was collected in 1995.

For more recent cohorts, however, the pattern appears different. Women born in the 1990s have substantially fewer births at younger ages, and the gap relative to earlier cohorts is larger than in previous decades. This raises the possibility that delayed fertility may be less likely to fully "catch up" at older ages, and that recent declines may reflect not only shifts in timing but also lower completed fertility.

Appendix Figure A.2 shows that these patterns differ somewhat across the income distribution. The decline in births at younger ages is most pronounced among lower-income households, although completed fertility by age 44 is relatively similar across income groups. These differences suggest that both timing and constraints may vary across households, even when lifetime fertility outcomes appear similar.

Taken together, these patterns highlight two key features of recent fertility dynamics. First, much of the long-run decline reflects delayed childbearing rather than an immediate reduction in completed fertility. Second, for more recent cohorts, delayed fertility may increasingly translate into lower lifetime fertility. These descriptive facts do not by themselves distinguish between changing preferences, shifting norms, and economic constraints. In the next section, we focus on whether the price of children has changed in a way that could help explain these fertility patterns.

3 Constructing the Child Cost Index

This paper aims to understand whether and how the cost of children has changed over time. In standard models of fertility, households allocate resources between children and other forms of consumption. The relevant object is therefore the price of children relative to other goods. Existing price measures, such as the Consumer Price Index, are not designed to capture this object, as they track the consumption basket of the average household rather than the bundle associated with raising children.

We therefore construct a *Child Cost Index* (CCI). The CCI is intended to capture the annual resource cost of raising a child, where resources include both expenditures on child-related goods and services as well as parental time. We interpret this as the cost of a representative child-year. This approach relates to a broader macroeconomic literature on price measurement, which emphasizes that inflation can differ systematically across households because expenditure shares vary across demographic groups (Hobijn et al., 2009; Jaravel, 2021). Our contribution is to apply this logic to a demographic object—children—rather than to household types.

The CCI has two components: the cost of goods and services that children require, and the time cost of children. Unlike standard consumption goods, children require substantial non-market time inputs, making the opportunity cost of time central to their effective price. Formally, let the annual cost of a child in year t be given by

$$C_t = P_t^g G_t + w_t^{\text{eff}} T_t, \tag{1}$$

where G_t denotes the goods-and-services bundle required by a child, P_t^g is the price of that bundle, T_t denotes parental time input, and w_t^{eff} is the effective price of parental time. The effective price of time captures both foregone wages and broader impacts of parenthood on earnings trajectories. We interpret G_t as the expenditure-minimizing bundle required to produce a given level of child-rearing inputs, allowing expenditure shares to evolve over time.

The two components are aggregated into the child cost index using a Törnqvist-style index. This index allows expenditure shares to adjust as relative prices change. The growth rate of the child cost index can be written as

$$\Delta \ln P_t = \bar{s}_g \Delta \ln P_t^g + \bar{s}_T \Delta \ln w_t^{\text{eff}}, \tag{2}$$

where $\bar{s}_g$ and $\bar{s}_T$ denote the average shares of goods expenditures and parental time in the total cost of a child. Equation (2) highlights that inflation in the cost of children reflects both changes in the prices of child-specific market goods and services and changes in the opportunity cost of parental time. As a result, the price of children need not move one-for-one with headline inflation.

To express this cost in economically meaningful units, we compare the child-specific cost index to an adult consumption index:

$$\text{RelChildPrice}_t = \frac{P_t}{P_t^{\text{Adult}}}. \tag{3}$$

This relative price measures how expensive children have become in units of adult consumption. Equivalently, it captures how much adult consumption must be foregone to finance the goods and time required to raise a child. In many models of fertility, this is the relevant price governing the tradeoff between children and other forms of consumption. We construct the adult index using the expenditure patterns of married couples without children, which approximates the counterfactual consumption bundle households would choose in the absence of children.

The empirical implementation of this framework requires three ingredients: recovering the child-specific expenditure bundle, mapping these expenditures into observed price series, and valuing parental time and its evolution over the last several decades. The next section describes the data and measurement choices underlying each step.

4 The components of the CCI: Methodology and Data

We use data from the Consumer Expenditure Survey to document changes in the monetary cost of children, and data from the American Time Use Survey and the Current Population Survey to document the costs in terms of parental time. In each subsection below, we introduce the dataset and explain how we used it to construct the key objects in Equation 2 above.

4.1 Child Spending Shares: Consumer Expenditure Survey

We use the Consumer Expenditure Survey to calculate the shares of spending on a child that are in each category (i.e. $\bar{s}$ in Equation 2). The Consumer Expenditure Survey is administered through the Bureau of Labor Statistics (BLS) by the U.S. Census Bureau. The survey collects data on household spending, grouping spending into broad categories. In constructing the CPI, the BLS uses exactly this data to calculate the share of household spending that goes to each of these categories.

Our empirical exercise is to unpack these shares for households with children and determine what is spent on each child within the household. We restrict our attention to households with children under the age of 18.[1] Appendix Table **??** shows the summary statistics for the households included in this sample. Some spending, such as clothing, is separated into expenditure on adult clothing and children's clothing, while other spending, such as food, is not. Therefore, we devise allocation rules to apportion household spending across members of the household.[2] We allocate each expenditure class in the data to a major spending category and follow the given allocation category for each major group:

[1] Families with over 6 children under the age of 18 were also excluded, as they were likely outliers. Further, to reduce outliers we restrict our sample to only include families where all parents are between 20 and 60. We also exclude households with kids older than 18, as it is unclear whether to treat those children in the same way as younger dependents. To minimize error, we simply restrict the sample.

[2] In accordance with how the United States Department of Agriculture (USDA) annualized CEX data for their calculation of the cost of having a child, we multiplied each subcategory by four to annualize the data (Lino et al., 2017). The one exception was for the rental equivalence of housing, which was measured monthly, so it was annualized by multiplying by twelve.

Food For food spending, we aggregate spending both at home and out of the home. To determine what spending was for the children, we follow the United States Department of Agriculture (USDA)'s allocation of food for children by age and number of children (Lino et al., 2017).[3] When developing their own cost of a child, Lino et al. (2017) calculated what percentage of a family's spending on food should go to each child based on the age of the youngest child and how many children are in the family, derived from the December 2015 USDA Food Plans: Cost of Food at Home Report. We adapt those percentages and apply them to our data by matching them to the number of children in each family and the age of each child within the family. For example, consider a family with three kids aged 3, 7, and 10. The three year old receives 14% of the family's spending on food, the seven year old receives 17% of the family's spending on food, and the ten year old receives 20% of the food spending. All remaining spending on food is allocated to the parents.

Clothing Within the CEX, children's clothing is reported separately from adults clothing. We allocate it proportionally to all children under the age of 18 within the household.

Transportation In order to allocate transportation expenses (e.g. car, gas, public transportation, etc,), we use Lino et al. (2017)'s assumptions on what percentage of transportation spending should go to each child based on the age of the youngest child and the number of children in the family. According to a U.S. Department of Transportation study, about 75% of transportation is considered to be for child-rearing purposes (Santos et al., 2011). Lino et al. (2017) allocate 50% of all "child-rearing" transportation to the adults with the remaining 50% allocated equally among all children. Thus, the 25% of non-child-rearing transportation spending, as well as 50% of child-rearing transportation spending, is appropriated to the adults. This translates to 62.5% of transportation spending being allocated to adults, and the other 37.5% being allocated to the children, divided evenly among them.

Healthcare To allocate healthcare expenses, we use Lino et al. (2017)'s assumptions on what percentage of healthcare spending should go to each child based on the age of the youngest child and the number of children in the family.[4] This allocation guideline was constructed using data from the U.S. Department of Health and Human Services 2012 Medical Expenditure Panel Survey (MEPS). This survey lays out out-of-pocket health care expenses for individual household members. Lino et al. (2017) constructed their shares by examining prototype families and looking at their spending on children. For example, a family with two children, one aged 7, and one aged 12, spends 26% of their healthcare spending on their 7-year-old and 19% of their healthcare spending on their 12-year-old.

Education/child care For education and childcare spending, all non-college spending is divided evenly among the children. All college spending is allocated to the adults.

[3]Due to a lack of consistent reporting on granular food spending, we chose to use the aggregated FMLI food spending variable to represent our food spending category.

[4]Due to an issue in the duplication of the same ELI in multiple expenditure classes in the healthcare spending category, we did not use expenditure classes for healthcare. Instead, we used an aggregated healthcare spending variable reported in the FMLI table.

Housing In accordance with the way CPI measures housing inflation, we measure the monthly cost of owning a home as the estimated monthly rental cost of an owned home.[5] For renters, we measure the monthly cost simply using rent.[6] We allocate household spending on housing in two different ways, each of which represents a bound on possible housing expenditure. First, we assume that the child's housing costs are just the marginal cost of a bedroom. The idea underpinning this assumption is that their parents would have been living in the house anyway, and therefore, the additional housing required for a child would be an additional bedroom. We estimate the marginal cost of an additional bedroom based on the data in the CEX with the following regression

$$\log(Y_i) = \sum_{k=1}^{5} \beta^k \, \mathbb{I}\left(\text{Bed}_i^k\right) + \gamma_{\text{income_grp}(i)} + \delta_{\text{age}(i)} + \lambda_{\text{region}(i)} + \varepsilon_i \tag{4}$$

where $\mathbb{I}\left(\text{Bed}_i^k\right)$ is an indicator for the household living in a house with k bedrooms, income group refers to the income tercile of family i and $\lambda_{\text{region}(i)}$ are census region fixed effects. The estimated coefficients give us the marginal cost of a bedroom and estimate how much of the household spending is going to children based on the marginal cost of each of their additional bedrooms.[7] All leftover housing spending is allocated to the adults. Appendix Figure A.8 shows the marginal cost of an additional bedroom over time. On average, it has risen from about 1000 dollars per year in 1990 to almost 5000 a month in 2023.

To evaluate the robustness of our primary specification in Equation 4, we tested several alternate specifications. First, we increased the granularity of the income variable by replacing the baseline income terciles with 50 distinct income groups. Second, we extended the bedroom count threshold to include up to 7+ bedrooms to better allocate bedrooms for larger households (up to six children). Finally, we separated households by income tercile prior to running the regressions, allowing the coefficients to all vary flexibly by income. Appendix Figure A.18 shows the comparison of the baseline and the alternate models, revealing no significant deviations.

This assumption that children's housing costs are equivalent to the cost of a marginal bedroom potentially overstates the housing cost needed for an additional child if the household plans to have two children share a room. However, it also potentially understates the cost if the household needs bigger living space to accommodate the child, move to a better school district, etc. Therefore, we consider a second allocation rule that simply allocates the household's spending on housing per capita across all members of the household. This implicitly assumes that absent children, the household would have scaled down housing spending in proportion to family size. This likely provides an upper bound for the amount that families spend on children for housing. Appendix Figure A.9 shows a comparison of family spending on housing between the per capita

[5] Beginning in 1994, the FMLI table in the CEX reports the monthly rental value of an owned home. Prior to 1994, and in 1998 due to a data quality issue that year, the universal classification code (UCC) for the rental value of a home was used. However, the UCC for the rental value of a home only matched the FMLI table version when multiplied by four. Thus, for years where the UCC rental equivalence was used, it was multiplied by four prior to being annualized.

[6] Housing expenditure classes separate home owners from renters, so instead, we followed CPI special aggregation classes for housing: shelter, fuel and utilities, and household furnishings and operations.

[7] Specifically, the formula for predicted cost of bedroom k is $H_k = e^{\beta_0 + \beta_k}$. The marginal cost of the $k+1$st additional bedroom is $H_{k+1} - H_k$.

allocation and the marginal cost of a bedroom version. We see that for much of the distribution, the per capita spending allocation implies more housing spending per child. However, for the families spending very large amounts on housing per year, the per capita allocation is actually lower than the estimated marginal cost of the bedroom for those households.

Miscellaneous goods All remaining other spending is labeled as miscellaneous spending and is allocated on a per capita basis to everyone in the household.

The final challenge is to link the spending categories reported in the CEX (which are reported at expenditure classes) to the categories that are collected in the CPI. We follow the crosswalk provided in Jaravel (2024) going back to 1999. For the years 1990-1998, we manually extended that crosswalk and utilized the data dictionary for the CE Public Use MicroData as well as the CPI's UCC to ELI concordance to match older variables in the Consumer Expenditure Survey to their corresponding CPI expenditure class. Since the crosswalk we used matched the CPI and the CEX on the entry-level item (ELI) level, and we were interested in working on the expenditure class level, after applying the crosswalk, we aggregated the CPI data up from ELIs to expenditure classes.

To account for noise, we pool several years of data and construct these shares as rolling averages. For 1993-2022, we average the three years prior to the given year through one year after the given year. We exclude data from 1996 due to data quality issues that year. The data in 2023 is the average from 2020–2023. Before averaging, we apply CPI adjustments to ensure all data are in the given year's dollars (i.e., for 1990, the data from 1994 are adjusted to be in 1990 dollars). The CPI adjustment is done using the inflation series at the expenditure class level when possible, with the category-level inflation rate being used otherwise.

Figure 3 shows the distribution of spending shares in 2023 for children for each major spending category. The blue bars show the shares using the bedroom-based allocation for housing and the orange bars show the per capita housing allocation. For comparison we have also included the spending shares for married couples without children, plotted in green.[8] Housing is the largest share of spending for all three versions. For both versions of spending shares for children, food follows housing; however, for married couples with no kids, they spend the second most on transportation.

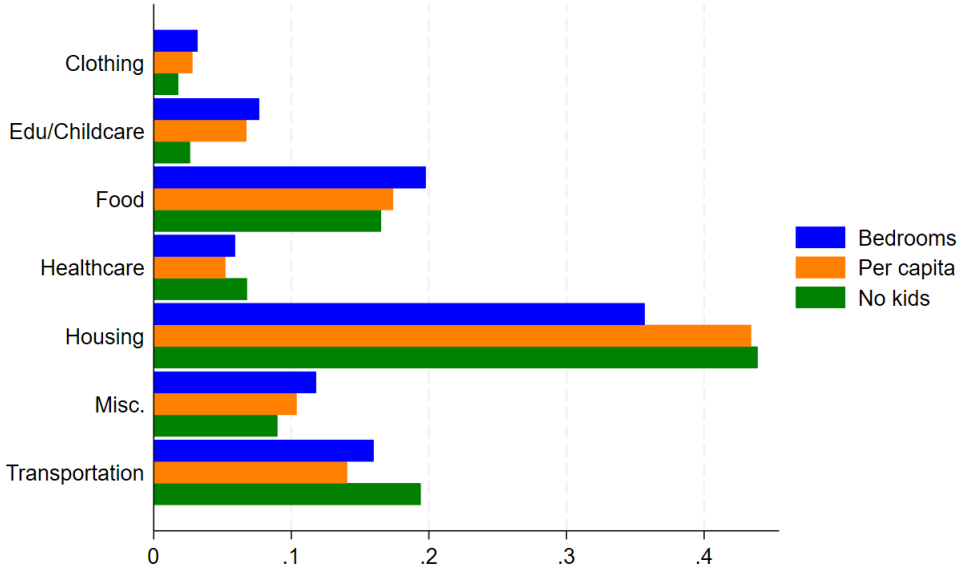
4.2 Price growth over time: CPI Indices

We begin by assembling an annual CPI panel from BLS source files and metadata, then reshaping to a year-by-series structure so that each CPI code can be matched to a corresponding expenditure category used in the weight files.

An important feature of the construction is that not all child-relevant CPI subseries are available for the full historical window. To maintain a long-run series, missing early observations are backcast using hierarchical proxy series. In practice, each missing subseries is linked first to a conceptually close parent CPI aggregate; when such a parent is unavailable or insufficient, headline CPI growth is used as a fallback. For example, the CPI subseries for new and used motor vehicles in the US began in 1993; for earlier years, the transportation CPI was used.

[8] We restrict to only couples where both partners are between 20 and 60 years old, making the sample comparable to the sample of families with kids.

Figure 3: Distribution of Spending Shares in 2023



Notes: Budget shares for major spending categories in 2023 from the Consumer Expenditure Survey. Blue bars show shares for households with children under the bedroom-based housing allocation; orange bars show shares under the per-capita housing allocation. Green bars show shares for married couples without children. Shares sum to one within each group.

4.3 Labor Market Costs: Current Population Survey

A large literature documents a "child penalty"—a drop in earnings that occurs after the birth of a child—that is primarily incurred by women. The earnings loss stems from women working less (or leaving the labor market) and experiencing lower wage growth following childbirth. Our goal for the purposes of this exercise is twofold. First, we aim to estimate the total income lost when having kids to inform the share of childcare costs that come from time (i.e. $\bar{s}_T(a)$ in Equation 2). We also aim to estimate the price of each hour of that time, which we will use to calculate the changing cost of the hours of work substituted for childcare (i.e. $\Delta \ln w_t^{\text{eff}}$ in Equation 2). We do so by estimating the impact of having a first child on (1) the number of hours worked by men and women, and (2) the labor income of men and women.

To obtain these estimates, we use the Current Population Survey, which is a repeated cross-section. Because we cannot follow the same individuals over time in the CPS, we adopt the pseudo-event study approach described in Kleven (2025). To estimate the impact of a child on hours worked, individuals are assigned to a "post-child event time" based on the age of their first child. For example, if a surveyed individual has a child aged 3, they are assigned to event time $t+3$. This allows us to obtain estimates for the years after an individual has a child. For the pre-birth period, we match individuals who *just* had a child to individuals who do not have a child and who are one to five years younger. We match on race, education, work status, annual earnings, state of residence, and survey year. This provides us with a set of individuals who look observationally similar to someone who just had a child for the event years $t-5$ through $t-1$. We restrict the sample to individuals aged 18–50.

Using this sample, we estimate the following event study equation separately for men and women:

$$Y_{i,t}^{g} = \sum_{\tau'} \beta_{\tau'}^{g} \mathbf{1}[\tau' = \tau_{it}] + \alpha_{a_{i,t}}^{g} + \gamma_{t}^{g} + \epsilon_{i,t}^{g} \tag{5}$$

Our two outcomes of interest are yearly earnings and work hours. We regress these on event time indicators surrounding the year of birth (τ), as well as age and calendar year fixed effects (Kleven, 2025). To maximize power, these are estimated using five-year time bins.[9]

We then conduct the following exercise to translate the percent of earnings lost into the two empirical objects that we need. First, we calculate the mean earnings and hours worked for men and women in $t-1$ for each five-year group. We then multiply the child penalty earnings estimate (which is in percent) with mean earnings in $t-1$ to get the earnings penalty in dollars for both women and men. We do the same for work hours, which yield the change in weekly hours worked when having a child. Lastly, we divide the dollar value of the child penalty by the change in the number of hours worked to get the average "price" per hour of childcare time. Note that this price could differ from the average hourly wage for women, since it captures not only the price of the marginal hour that is not worked but also any changes in earnings on the inframarginal hours (e.g. from missed promotions, occupation shifts, etc.)

4.4 Other time costs: Time use surveys

As discussed above, the time that parents devote to childcare comes only partly from work. We document the leisure costs of children using time use data. Time use data has been collected systematically since 2001 in the American Time Use Survey, conducted by the U.S. Bureau of Labor Statistics. Data from before this period is sparse. We make use of three additional data sources that provide time use data from 1990 through 2024. These additional surveys are the American Use of Time Survey; Time Use in Social and Economic Accounts; and the Time Use in Economic and Social Accounts.[10] Each survey targeted a nationally representative sample.

The American Heritage Time Use Study (AHTUS) harmonizes these datasets. Each survey differs in its target population and time diary collection method (i.e. how they map entries into activities). However, all surveys interview one individual per household (typically an adult, 18+) and use a 24-hour recall of activities. Activities are recorded by surveyors and later grouped into 12 broad categories. AHTUS harmonizes these activities across surveys to allow for cross-year comparisons of time spent in different activities.

One exception in the harmonization lies in "secondary childcare" activities. The later ATUS surveys categorize both primary childcare (activities directly involving or caring for a child) and secondary childcare (activities for which a child is present). The earlier time use surveys did not make this distinction. As such, when using secondary measures of childcare, we focus on the ATUS data (2000-2024).

[9] Using five-year intervals allows us to maximize our sample size given that we need to match individuals who just had a child to others who do not have a child for obtain our pre-birth estimates.

[10] An additional survey used for time use is the National Human Activity Pattern Survey. We can not use this survey for our analysis as it does not have information on respondents' marital status or number of children.

5 The Child Cost Index

We now present estimates of the Child Cost Index. We begin with the goods-and-services component, which isolates the monetary cost of children. We then turn to the time cost of children and conclude by combining the two into a full index. Across all specifications, the central message is the same: children have become more expensive in nominal terms, but their relative price has risen far less than the salience of childcare and tuition costs would suggest.

5.1 Monetary Cost of Children

The monetary child cost index tracks almost exactly the same long-run price growth as the consumption bundle of married adults without children. Formally, the goods component is defined by

$$\Delta \ln P_t^g = \sum_k \bar{s}_k \Delta \ln P_{k,t}^g. \tag{6}$$

Figure 4 shows this index for children under two housing allocations, together with the analogous price index for married adults without children.

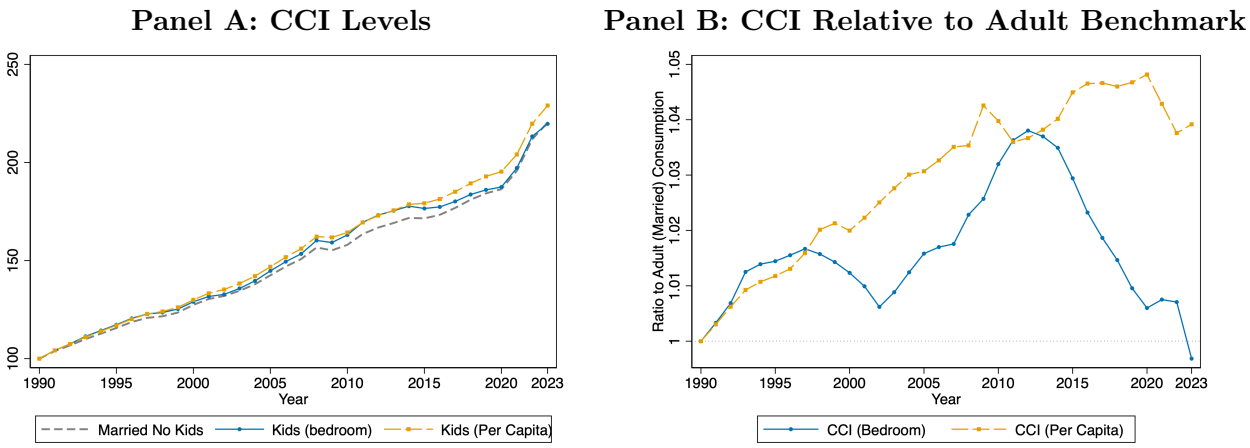
Our preferred specification allocates housing to children on a per-capita basis, assigning each household member—children and adults alike—an equal share of housing expenditure. This approach is transparent, easy to interpret, and provides an upper bound on children's housing share. For comparison, Figure 4 also reports the index under the bedroom-based allocation, which assigns children only the marginal cost of an additional bedroom. As the adult benchmark, we use married couples without children and compute the same chained index using their expenditure shares.

A natural concern is that, absent children, parents would shift spending toward a very different bundle—for example, one disproportionately weighted toward travel, entertainment, or other discretionary goods—so that the married childless bundle would be a poor measure of the alternative to children. Appendix Figure A.17 addresses this by plotting Engel curves for major spending categories among married couples without children. The marginal dollar spent by higher-income childless couples goes primarily to housing rather than to discretionary categories, and the broad composition of the marginal bundle looks similar to the average bundle. This supports using married couples without children as the adult-consumption benchmark.

Figure 4 delivers the paper's main goods-market result. In Panel A, both child-specific monetary indices track the adult index very closely from 1990 to 2023. All three series more than double over the period. The two child indices differ somewhat from each other because housing matters so much for long-run inflation: the per-capita allocation assigns children a larger housing share, so it produces a somewhat higher cumulative index than the bedroom-based allocation. But under either approach, the broad pattern is the same. Children have become more expensive in nominal terms, yet the price of a child's goods-and-services bundle has not pulled far away from the price of adult consumption.

Panel B shows the economically relevant object more directly by expressing each child index relative to the adult benchmark. These ratios remain close to 1 throughout the sample. Under the bedroom-based allocation, the ratio falls slightly below 1 because children are assigned less housing and shelter is one of the fastest-rising components of the adult index. Under the per-

Figure 4: Monetary Child Cost: Price Indices by Household Type



Notes: Panel A shows the chained Child Cost Index (CCI) for three groups: married couples without children (grey dashed), households with children under the bedroom-based housing allocation ("Kids (bedroom)"), and households with children under the per-capita housing allocation ("Kids (Per Capita)"). The CCI is a Törnqvist (chained) index using Consumer Expenditure Survey spending weights and BLS CPI sub-indices. All series are normalized to 100 in 1990. Panel B expresses each child CCI as a ratio to the adult benchmark; a value above 1 means children's goods and services rose faster than adult prices. The per-capita allocation serves as our preferred specification in all subsequent analysis.

capita allocation, the ratio rises modestly above 1, reaching roughly 1.04 by 2023. In other words, even under our preferred and more child-intensive housing specification, the monetary price of children rises only slightly faster than adult prices over three decades. Because this specification is transparent and conservative with respect to children's housing exposure, we adopt it as our baseline and report the bedroom-based version as a robustness check in the appendix.

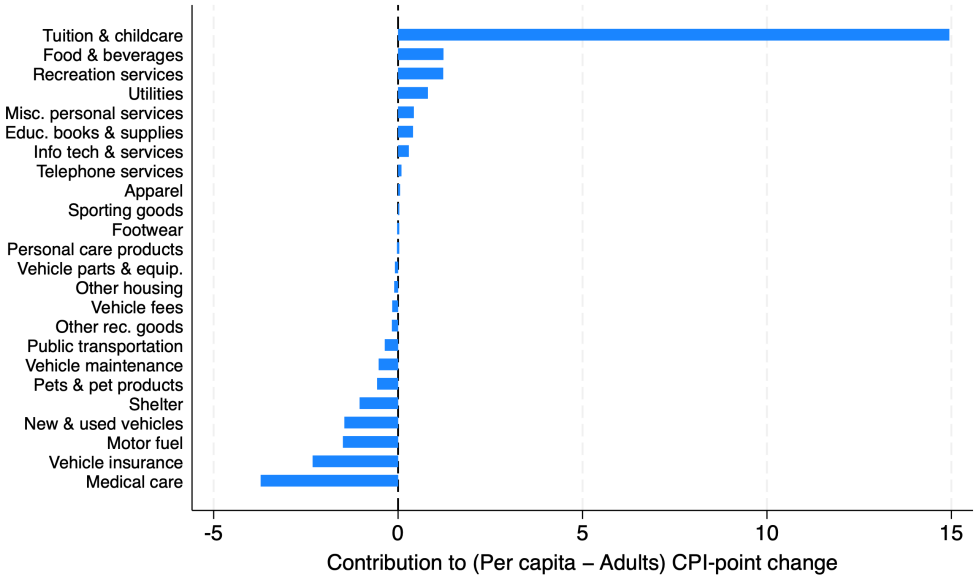
At first glance, this stability is surprising. Appendix Figure A.14 shows that tuition and childcare prices nearly quintupled between 1990 and 2023, while the overall CPI a little more than doubled. If one focuses on those highly visible categories alone, it is natural to conclude that the price of children must have risen dramatically. Figure 5 shows why that conclusion is misleading.

Figure 5 decomposes the cumulative child–adult inflation gap in 2023 into category-level contributions. Each bar reports

$$(\bar{s}_k^{\text{kids}} - \bar{s}_k^{\text{adults}}) \times \Delta\text{CPI}_k,$$

where ΔCPI_k is cumulative price growth in category k from 1990 to 2023. Positive bars indicate categories in which children are relatively more exposed to fast-rising prices; negative bars indicate categories in which children are relatively less exposed.

Figure 5: Category Contributions to Child–Adult Inflation Gap



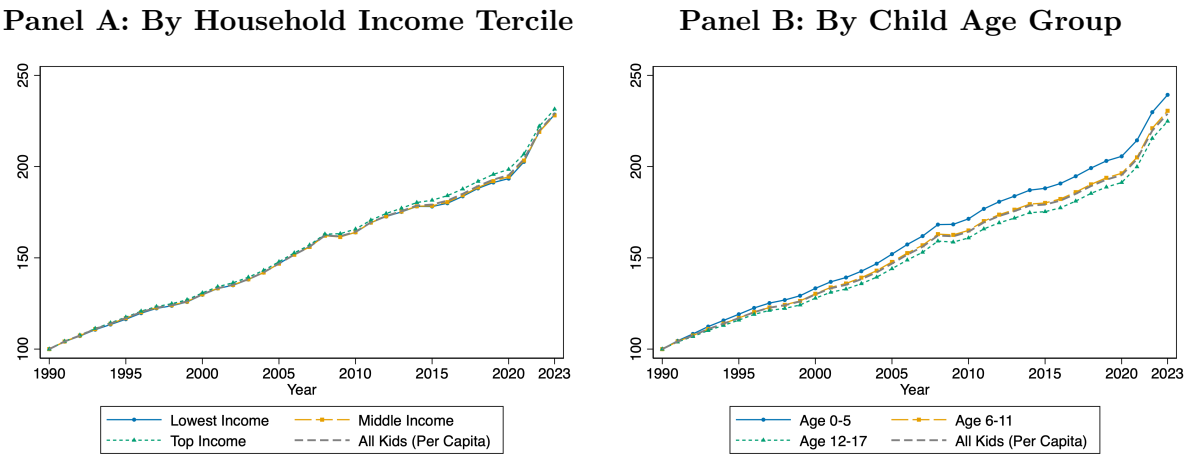
Notes: Each bar shows the contribution of a spending category to the difference in cumulative CPI-point growth between households with children (per-capita housing allocation) and married couples without children, 1990–2023. Contribution $= (\bar{s}_k^{\text{percapita}} - \bar{s}_k^{\text{adults}}) \times \Delta\text{CPI}_k$, where weights are averaged over all available survey years. Sorted from largest positive to largest negative; only the top and bottom 12 categories are shown.

The decomposition reveals several large and roughly offsetting forces. On the positive side, tuition and childcare is by far the largest contributor. Children devote a meaningful share of spending to this category, whereas married adults without children devote essentially none, so rapid tuition and childcare inflation pushes the child index upward.[11] Food and beverages and recreation services also contribute positively, since children's bundles overweight these categories and prices in them rose somewhat faster than average.

On the negative side, however, several categories pull the child index back down. Medical care is the largest negative contributor, because adults devote more spending to it and medical prices rose sharply over the sample period. Shelter is also a major negative contributor. Even under the per-capita housing allocation, children have a smaller housing share than married couples without children, so rapid shelter inflation raises the adult benchmark more than the child index. New and used vehicles also push in the same direction, since married adults without children devote more of their budget to this category than children do. The key point is that the dramatic rise in tuition and childcare is real, but it is not the whole bundle. Once one aggregates across all categories, large positive and negative forces largely offset. Appendix Figure A.11 shows that the same qualitative pattern holds under the bedroom-based housing allocation, where the shelter offset is even stronger.

[11] This average is calculated over all children, including the large fraction without formal childcare, which substantially lowers the mean. Among households with positive childcare spending, the share is closer to 15–21 percent.

Figure 6: Child Cost Index by Income Tercile and Child Age Group



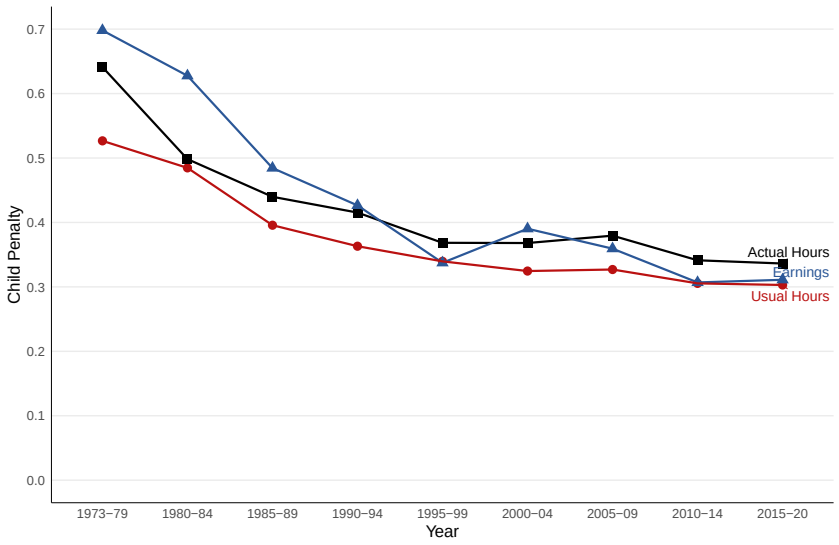
Notes: Both panels show the chained CCI compared to the price index for married adults without children, normalized to 100 in 1990. *Panel A:* CCI by household income tercile (lowest, middle, top). Income groups are terciles of the within-year income distribution. *Panel B:* CCI by child age group (0–5, 6–11, 12–17), restricted to one-child households.

Heterogeneity by income and child age. The previous figures pool all families with children. Figure 6 asks whether this masking matters by examining child-cost inflation separately by household income tercile and by child age group.

Across income terciles, the three child CCIs are nearly indistinguishable. Households at different points of the income distribution therefore experience very similar child-cost inflation, despite having somewhat different spending baskets. Appendix Figure A.16, Panel A shows why. Lower-income households devote relatively more of their spending to food, while higher-income households devote relatively more to tuition and childcare, consistent with Engel's law. These differences matter for composition, but not much for overall inflation because they offset in the aggregate. The implication is that heterogeneity in baskets across income groups does not translate into much heterogeneity in the growth rate of the child cost index.

The age dimension is more informative. Panel B of Figure 6 shows that households with children aged 0–5 face somewhat faster price growth than households with older children. By 2023, the gap between the youngest and oldest age groups is economically meaningful, though still far smaller than a narrative centered only on childcare prices would suggest. Appendix Figure A.16, Panel B shows the mechanism: tuition and childcare accounts for a much larger share of spending for families with young children than for families with teenagers, while older-child households devote relatively more to food. Because tuition and childcare is the fastest-rising category in the index, it pushes the CCI higher for young children. Thus, age matters more than income for child-cost inflation, largely because the basket for very young children is much more intensive in childcare services.

Figure 7: Child penalties time series



Notes: This figure plots child penalties in actual and usual hours worked, and in annual earnings, estimated by five-year period using a pseudo-event study following Kleven (2025). Each point shows the estimated percentage reduction in hours worked (or earnings) for mothers relative to fathers. Estimates use Current Population Survey data; see Section 4.3 for methodology details.

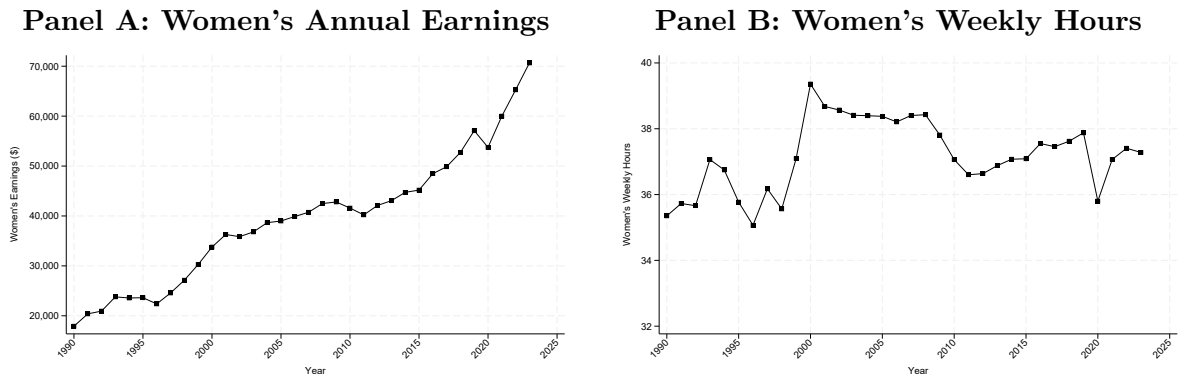
5.2 Time Cost of Children

The time cost of raising children reflects two distinct objects: the number of hours parents forgo from work after having children, and the value of those hours. These two margins can move in opposite directions, so the evolution of time costs is not obvious from child-penalty estimates alone.

Appendix Figures A.3 and A.4 plot the underlying event-study estimates by five-year period. Consistent with the broader child-penalty literature, men experience little change in either earnings or hours following the birth of a first child, while women experience large declines in both. Those female penalties have fallen substantially over time. In the 1970s, mothers' post-child hours and earnings fell by roughly 50–70 percent relative to comparable fathers; by the 2010s the corresponding gaps are closer to 30–35 percent. There is also little evidence that these penalties continue to widen as the child ages. For the CCI, the relevant implication is that the market-time component of child costs is driven almost entirely by mothers, and that the quantity of foregone labor has fallen over time even as the value of that foregone labor may have risen.

Figure 7 summarizes these declining motherhood penalties. But a smaller percentage penalty does not necessarily imply a lower time cost. What matters for the CCI is the level of lost earnings and the implied price of each lost hour, not just the fraction of labor supply lost after childbirth. Panel A of Figure 8 shows that women's nominal earnings rose strongly over the sample period. Panel B shows that average weekly hours were comparatively stable. Taken together, these trends imply a simple economic pattern: mothers forgo fewer hours than in the past, but each hour they do forgo has become more valuable.

Figure 8: Women's Earnings and Hours, 1973–2020



Notes: Panel A shows mean annual nominal earnings for women in the CPS sample, averaged within five-year periods. Panel B shows mean weekly hours worked by women in the CPS sample. Both series cover 1973–2020.

Figure 9 makes this tradeoff explicit. The total nominal annual earnings loss—mean earnings multiplied by the motherhood earnings penalty—grew substantially between 1990 and 2023. The implicit price per hour of lost work rose even faster. The wedge between these two series is informative: it shows that the quantity of penalized hours fell over time, so that the average cost of each remaining hour of maternal time rose more quickly than the total annual earnings loss. This per-hour measure need not equal the average wage because it also captures earnings losses on inframarginal hours, such as missed promotions, slower wage growth, or shifts toward more flexible occupations. In that sense, the time component of the CCI is broader than a simple foregone-wage calculation.

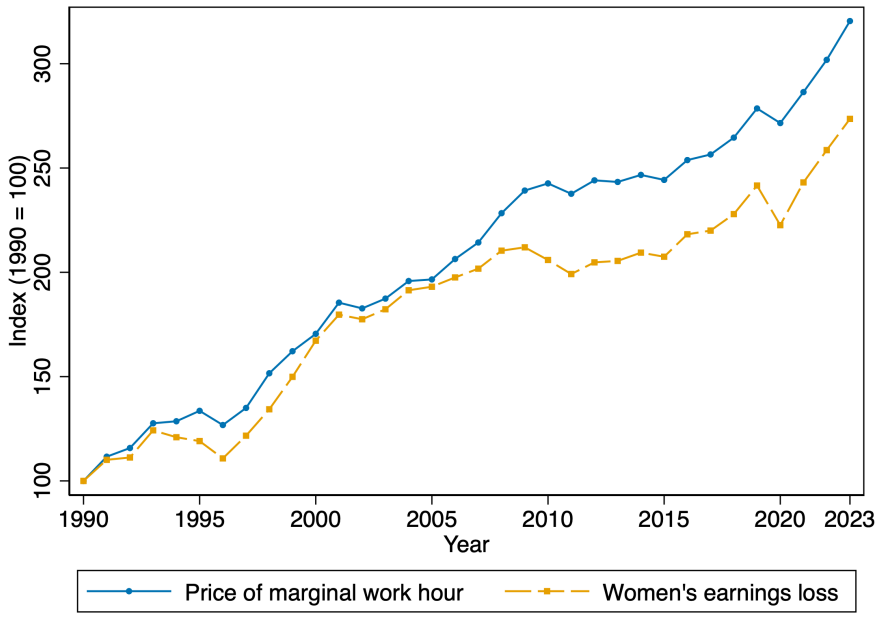
5.3 Putting it together

We now combine the monetary and time components to construct the full Child Cost Index in Equation 2. Appendix Figure A.10 shows that the time share of total child costs is fairly stable over the sample period, accounting for roughly half of total child costs. The importance of time is therefore large throughout, but not rising mechanically over time.

The full CCI rises faster than the monetary index in the 1990s and 2000s, but the gap later narrows substantially. Figure 10 shows this both in levels and relative to the adult benchmark.

Panel A shows that the full CCI rises above both the monetary CCI and the adult benchmark during the 1990s and 2000s. This divergence reflects the period of strong wage growth for women. Because children are highly time intensive, rapid wage growth raises the opportunity cost of childcare time more than it raises the prices of ordinary consumption goods. Over this period, the time component therefore causes the full CCI to grow faster than the goods-only index.

Figure 9: Components of Time Cost: Per-Hour Price vs. Total Earnings Loss

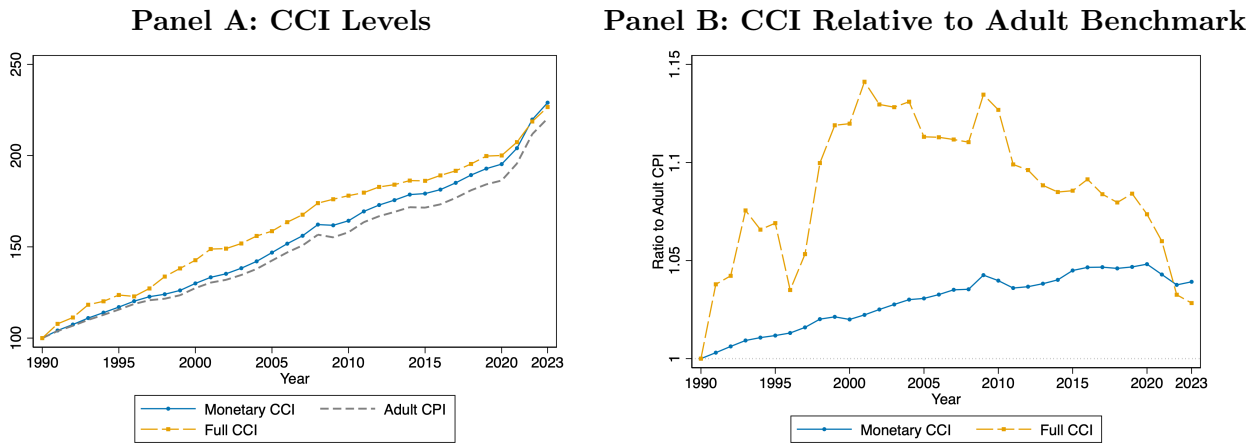


Notes: Both series indexed to 100 in 1990. "Price of marginal work hour" is the adjusted hourly opportunity cost of maternal childcare time. "Women's earnings loss" is the total annual dollar value of the motherhood earnings penalty. The divergence between the two series implies that the number of penalized hours declined over the period.

Panel B shows the same point in relative-price form. The monetary CCI remains close to the adult benchmark throughout the sample. The full CCI, by contrast, rises meaningfully above 1 in the late 1990s and early 2000s, indicating that once time is included, children temporarily become more expensive relative to adult consumption. But this gap does not persist. After the mid-2000s, the full CCI begins to converge back toward the adult benchmark, and the convergence becomes especially pronounced from 2020 to 2023.

The logic behind this late convergence is straightforward. The time component makes children expensive when wages are rising quickly relative to consumer prices, because children require a great deal of parental time. From 2020 to 2023, however, the opposite occurred: consumer prices accelerated sharply while wage growth lagged behind that inflation surge. When prices of market goods rise faster than wages, the relative price of a time-intensive activity falls. In that environment, the wage-valued time component grows more slowly than the adult consumption benchmark, compressing the gap between the full CCI and adult prices. Put differently, the pandemic-inflation episode made children look comparatively "cheaper" in relative-price terms precisely because such a large share of child-rearing costs comes from time rather than from market purchases.

Figure 10: Full Child Cost Index: Goods and Time, 1990–2023



Notes: Panel A shows all three series indexed to 100 in 1990. "Monetary CCI" is the chained Törnqvist index for child goods and services; "Adult CPI" is the analogous index for married adults without children; "Full CCI" adds the time cost component, weighted by women's annual earnings loss. Panel B expresses the Monetary CCI and Full CCI each as a ratio to the Adult CPI; a value above 1 indicates that child costs rose faster than adult costs.

Taken together, the evidence in this section points to a consistent conclusion. In goods and services alone, the cost of children tracks adult prices remarkably closely. The reason is not that childcare and tuition failed to rise, but that those increases were offset by children's lower exposure to other fast-rising categories, especially shelter and medical care. Time costs add an important additional margin and help explain why the full CCI rises faster in the 1990s and 2000s. But even this broader measure converges back toward the adult benchmark over time, especially once inflation begins to outpace wage growth in the early 2020s.

5.4 The Price of Foregone Leisure

Our CCI prices parental time using foregone labor-market earnings. But child-rearing also displaces leisure, and the value of that foregone leisure is not included in any standard market-based index. If the value of leisure has increased over time—because of improvements in entertainment technology, rising returns to personal time, or changes in outside options—then the true cost of children could have risen more than the labor-market-based CCI suggests.

Although we do not directly observe the value of leisure, we can ask whether the amount of leisure displaced by children has changed over time. To do so, we use the AHTUS and group activities into four broad categories: market work, housework, leisure, and childcare. Restricting the sample to married couples without children and married couples with a child under the age of five, we estimate

$$Hours_{i,k}^{g,c} = \gamma_k^{g,c} Child_i + X_i'\beta + \theta_d + \theta_k + \epsilon_{i,k} \tag{7}$$

separately for each gender g and time category c. Here, $Hours_{i,k}^{g,c}$ is the number of hours respondent i spends on category c on a given day, and $Child_i$ indicates whether the respondent has a child under age five. We also control for age, education, survey year, and day-of-week fixed effects.

The results for leisure, market work, and childcare appear in Table 1.[12] Parents of young children spend substantially less time in leisure, especially under the expansive definition of childcare in Panel B. Men spend about 3.7 fewer hours per day in leisure and women about 4.4 fewer hours, while childcare time rises by 6.6 and 9.4 hours per day, respectively. The remaining difference is accounted for by changes in work and housework time.

Table 1: Effect of First Child on Time Use

	Leisure		Work		Childcare	
	Men	Women	Men	Women	Men	Women
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Primary						
Child Under 5	-0.334***	-0.584***	-0.844***	-1.820***	1.503***	2.616***
	(0.074)	(0.066)	(0.082)	(0.070)	(0.032)	(0.036)
Survey Year	✓	✓	✓	✓	✓	✓
Day of Week	✓	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓	✓
Age	✓	✓	✓	✓	✓	✓
Control Mean	17.56	17.04	2.90	2.09	0.13	0.24
Observations	34776	36899	34776	36899	34776	36899
Panel B: Expansive						
Child Under 5	-3.664***	-4.389***	-1.094***	-2.016***	6.583***	9.383***
	(0.070)	(0.061)	(0.084)	(0.071)	(0.076)	(0.067)
Survey Year	✓	✓	✓	✓	✓	✓
Day of Week	✓	✓	✓	✓	✓	✓
Education	✓	✓	✓	✓	✓	✓
Age	✓	✓	✓	✓	✓	✓
Control Mean	17.49	16.93	2.82	2.03	0.28	0.43
Observations	33204	35058	33204	35058	33204	35058

Note: This table shows the effect of having a child under the age of five on time use. Each regression compares married men and women with one child under five to married men and women without any children. Panel A uses a primary definition of childcare whereas Panel B uses a secondary definition.

The key point for the CCI is not just that children reduce leisure, but whether this leisure displacement has become larger over time. Appendix Figures A.5 and A.6 suggest that it has not. The amount of leisure displaced by a young child is fairly stable over the sample period. This makes it less likely that rising child costs are being driven by parents devoting systematically more leisure time to children than in the past.

[12]The results for housework are shown in Appendix Figures A.5 and A.6.

That said, stable time displacement does not imply a stable leisure cost. Even if children crowd out the same number of leisure hours over time, those hours may have become more valuable. Economists often price leisure using the real wage (Aguiar et al., 2021b), and the value of leisure may also have risen because leisure goods and experiences have improved or become cheaper. For that reason, the leisure margin remains a plausible source of divergence between measured and perceived child costs even though the quantity of displaced leisure appears stable.

6 Discussion

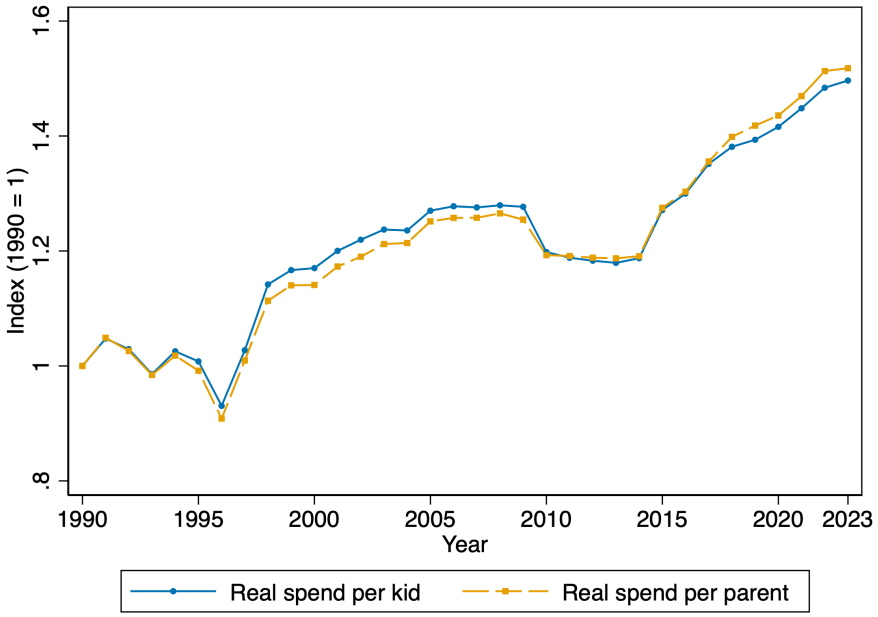
A central puzzle motivating this paper is that surveys consistently identify the cost of children as a major reason why Americans have fewer children than they want, yet our Child Cost Index shows that the relative price of children has not risen dramatically over the past three decades. The goal of this section is not to argue that children are inexpensive, nor to claim that economic costs are unimportant for fertility. Rather, it is to explain how stable measured relative prices can coexist with a widespread sense that children have become less affordable. Our results point away from a simple story in which the price of a fixed child-rearing bundle has risen sharply, and toward mechanisms that operate through the desired level of child spending, the timing of costs, the burden those costs impose on different households, and the salience of highly visible expenditures.

Real spending has risen, even if relative prices have not. A first distinction is between the *price* of a given child-rearing bundle and the *quantity or quality* of resources parents choose to devote to children. Our index asks whether the price of a fixed bundle has risen. Parents, however, may care about whether the bundle they view as necessary for raising children has itself expanded over time. In that case, children may feel more expensive even if the relative price of a given bundle has remained stable.

Figure 11 speaks to this possibility. Real spending per child, deflated by the chained CCI, has risen by roughly 50 percent since 1990. But real spending per parent, deflated by CPI, has risen by a very similar amount. This suggests that as households have become richer, they have increased real consumption devoted to both themselves and their children. Put differently, parents appear to be consuming more overall, rather than children becoming uniquely more resource-intensive in real terms.

A related way to see this is to compare how much parents spend on themselves—that is, household spending net of what we allocate to children—to the spending of married couples without children of similar ages and income levels. Appendix Figure A.12 shows that parents spend substantially less on themselves than married couples without children, as one would expect. But that gap has not widened over time, and if anything, it has narrowed somewhat. The sacrifice in adult consumption associated with having children therefore appears to have been large all along, rather than becoming steadily larger in recent decades.

Figure 11: Real Spending Per Child and Per Parent, 1990–2023



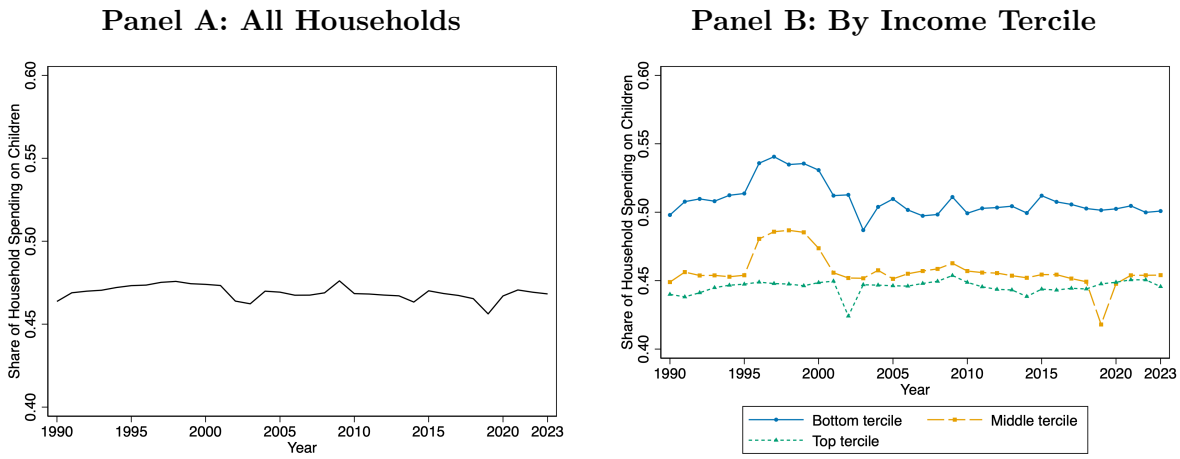
Notes: Real spending per child (solid) and per parent (dashed) from the Consumer Expenditure Survey, deflated using the chained CCI and normalized to 1 in 1990. Both series use the per-capita housing allocation.

Front-loaded costs and credit constraints. The timing of child-rearing costs may be more important for fertility decisions than their lifetime average level. Fertility decisions are made when households are relatively young, early in their earnings profiles, and often most financially constrained. Even if the lifetime resource cost of a child has not risen dramatically, the *front-loaded* cost of having a child may have become more burdensome.

This mechanism is particularly plausible in our setting. The largest child-related expenditures and earnings losses are concentrated in the early years: childcare expenses are highest when children are young and housing adjustments often occur around the arrival of children. A household that cannot easily borrow against future earnings may therefore perceive children as increasingly unaffordable even if the lifetime relative price of a child is roughly stable. In that sense, a flat long-run CCI need not imply a flat present-value burden for young households.

Our age-specific results are consistent with this interpretation. The child cost index rises more for households with children aged 0–5 than for those with older children, reflecting the large role of childcare in the spending bundle of young children. This pattern suggests that the economic pressure associated with children may be concentrated increasingly in the years when families are least able to smooth it.

Figure 12: Share of Household Spending Allocated to Children, 1990–2023



Notes: Share of total household spending allocated to children (household members coded as `parent`= 0) in the Consumer Expenditure Survey, using the per-capita housing allocation. Panel A pools all households with children. Panel B splits by within-year income tercile (bottom, middle, top). Weighted means using CEX survey weights.

The burden of child costs differs across households. A second reason measured price stability may coexist with perceived unaffordability is that the burden imposed by child costs differs sharply across households even when inflation rates do not. In Section 5, we showed that child-cost inflation is quite similar across income terciles. But a given dollar amount of spending on children represents a much larger share of resources for lower-income households, who are also more likely to face borrowing constraints.

Figure 12 illustrates this point. Panel A shows that children account for roughly 47 percent of total household spending in families with children, and that this share is essentially flat over time. The main implication is that children have long absorbed a very large share of household resources. Panel B shows that this burden is systematically higher for lower-income households: families in the bottom income tercile devote around 50 percent of their spending to children, compared with roughly 44–45 percent in the middle and top terciles. These shares are also remarkably stable over time. The burden borne by lower-income households is therefore not new, but it remains economically important. Even if the relative price of children has not risen much, the affordability consequences of child-rearing can still be severe for households with fewer resources.

Salience, anticipation, and large visible expenditures. A final set of mechanisms concerns perception rather than the underlying cost index itself. The prices that loom largest in public discussion—daycare fees, tuition, and health expenses—are exactly those that arrive as large, discrete, and highly visible bills. By contrast, some of the largest offsetting forces in our decomposition, especially shelter, are less likely to be experienced by households as "the cost of

children." Housing costs are gradual, bundled with adult consumption, and often rationalized as investment rather than child-rearing expenditure. As a result, households may overweight the categories that are most salient and underweight the categories that offset them in a full cost-of-living framework.

This interpretation is consistent with our decomposition results. Tuition and childcare is the largest positive contributor to child-specific inflation relative to adults, but shelter is the largest offsetting force. The measured CCI incorporates both. Households, however, may naturally focus on the line items that feel uniquely child-related and ignore the categories that offset them because those categories do not enter mental accounting in the same way.

This same logic applies to college. Our CCI includes primary and secondary school costs, but not the cost of college, and parents may nevertheless view expected college spending as part of the cost of having children. Here too, however, the sticker price overstates the increase in what many households actually pay. Although published tuition rose by roughly $13,717 in real terms between 1990 and 2020, net tuition after financial aid rose by only $4,526 (Cooper, 2025). Similarly, Cook and Turner (2022) show that net tuition paid by students from families earning less than $30,000 rose by only 4.5 percent over the same period, and even fell at the most resource-intensive public universities. The share of students paying full sticker price at public four-year institutions declined from 53% in 1995–96 to 26% in 2019–20 (Levine, 2024). As with childcare, parents may anchor on the posted price rather than the net price, causing anticipated college costs to loom larger in perceptions than in realized expenditures.

Taken together, these mechanisms suggest a more nuanced resolution of the affordability puzzle. Our CCI rejects a simple account in which the relative price of a fixed child-rearing bundle rose dramatically over the last three decades. But that does not imply that economic forces are irrelevant for fertility. Children may feel less affordable because parents choose a larger or higher-quality bundle than in the past, because costs are concentrated in the early years when households are most constrained, because the burden of child-rearing is heavier for lower-income families, and because highly visible child-related prices are more salient than the broader portfolio of offsetting price changes. The evidence therefore points away from broad-based relative price growth and toward timing, burden, and salience as more plausible explanations for why children are widely perceived to have become less affordable.

7 Conclusion

This paper constructs a Child Cost Index (CCI) that combines the monetary cost of child-specific goods and services with the opportunity cost of parental time, tracking both from 1990 to 2023. Our central finding is that the cost of raising children has not risen meaningfully faster than the price level faced by adults without children. In terms of goods and services alone, the child cost index roughly doubled over this period, nearly identical to the adult benchmark, as rapid price growth in tuition and childcare was largely offset by children's lower exposure to surging housing costs or medical expenses. Incorporating the time cost of children, the full CCI rose somewhat faster through the mid-2000s, driven by strong wage growth for women, but subsequently converged back toward the adult price level as wage growth moderated. These findings suggest that while children have always claimed a large share of household resources—

roughly half of total family spending throughout the period—the relative price of children in terms of adult consumption has remained broadly stable. The disconnect between this measured stability and the widespread perception that children have become unaffordable may reflect the salience of visible, front-loaded costs like childcare and tuition, credit constraints facing young households, or rising real standards of child-rearing rather than price growth per se.

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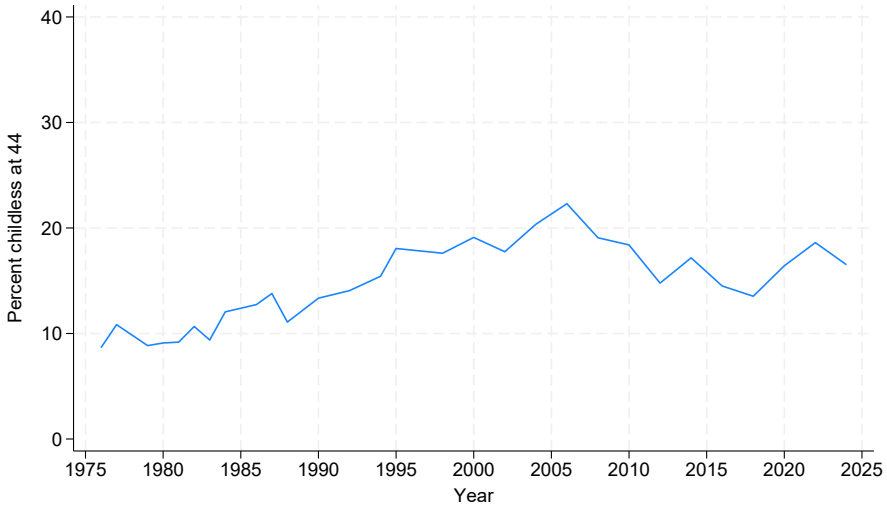
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A Appendix Figures

Figure A.1: Fraction of women with zero children by age 44



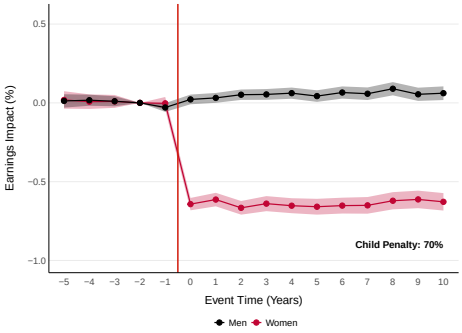
Notes: This figure uses the Current Population Survey Fertility Supplement to show the share of women who have no children at age 44. The Fertility Supplement of the CPS is conducted every two years. Data for 1996 was collected in 1995.

Figure A.2: Average number of children per woman by income groups and birth cohorts

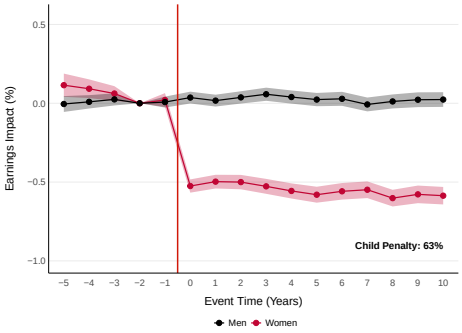


Source: Current Population Survey - Fertility Supplement. Fertility Supplement of the CPS is conducted every two years. Data of 1996 was collected in 1995.

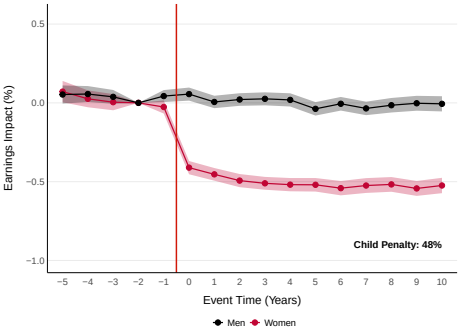
Figure A.3: Child Penalty Estimates: Earnings



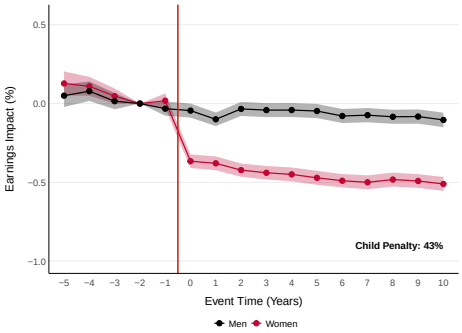
(a) 1973-1979



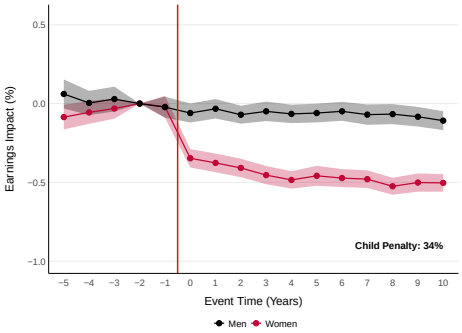
(b) 1980-1984



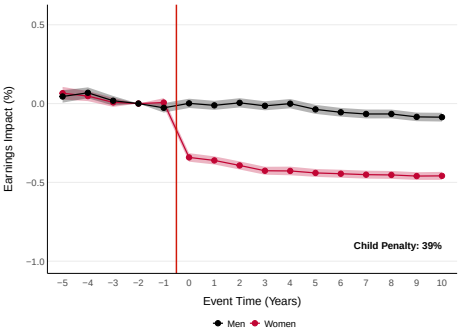
(c) 1985-1989



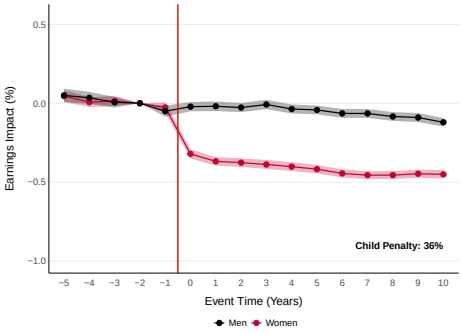
(d) 1990-1994



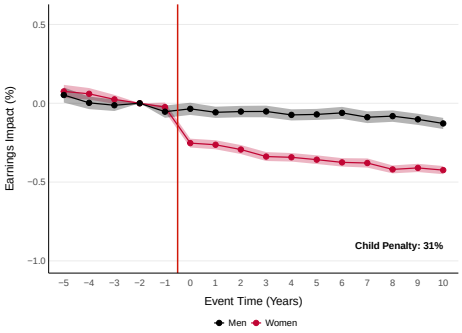
(e) 1995-1999



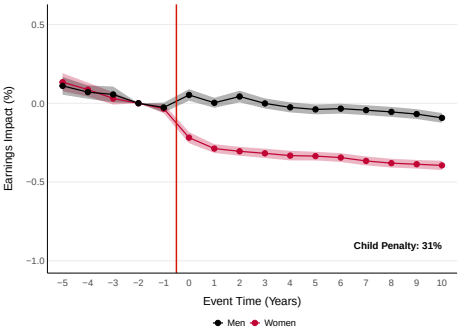
(f) 2000-2004



(g) 2005-2009

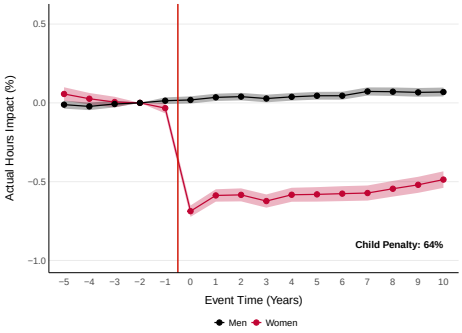


(h) 2010-2014

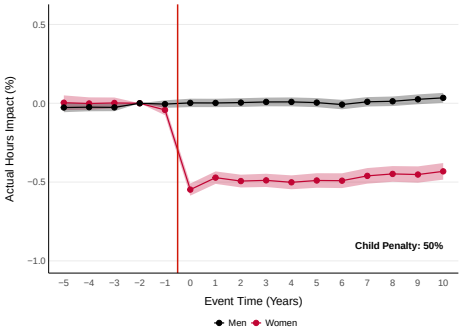


(i) 2015-2020

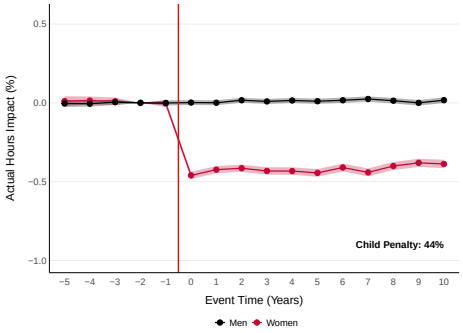
Figure A.4: Child Penalty Estimates: Work Hours



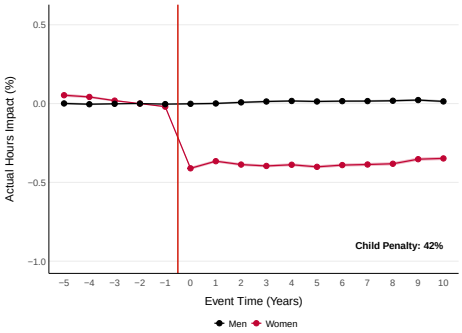
(a) 1973-1979



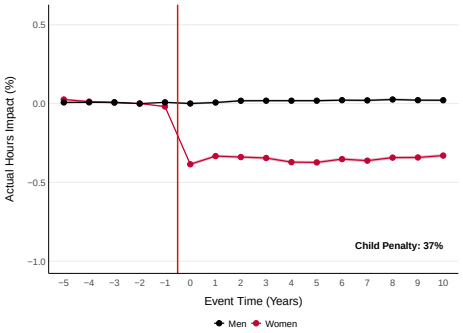
(b) 1980-1984



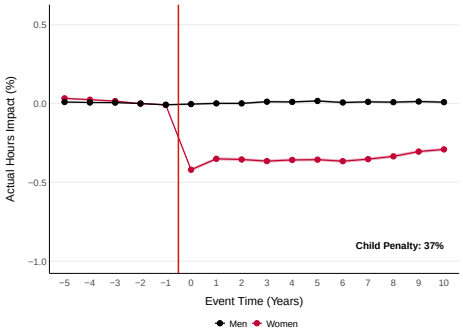
(c) 1985-1989



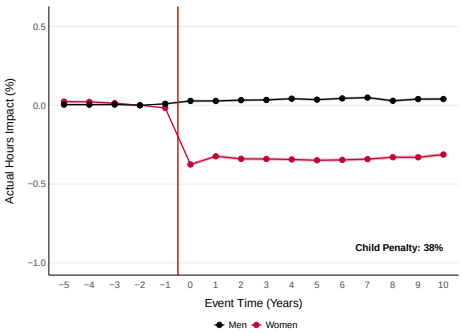
(d) 1990-1994



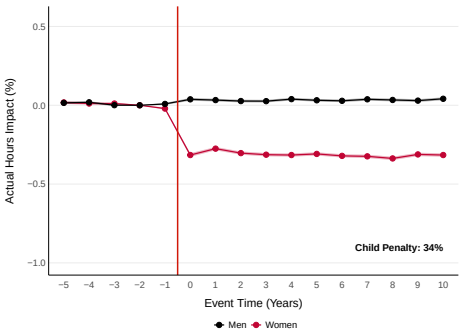
(e) 1995-1999



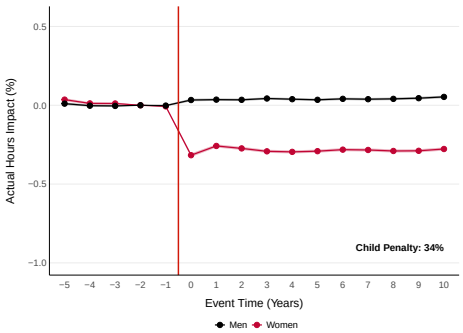
(f) 2000-2004



(g) 2005-2009

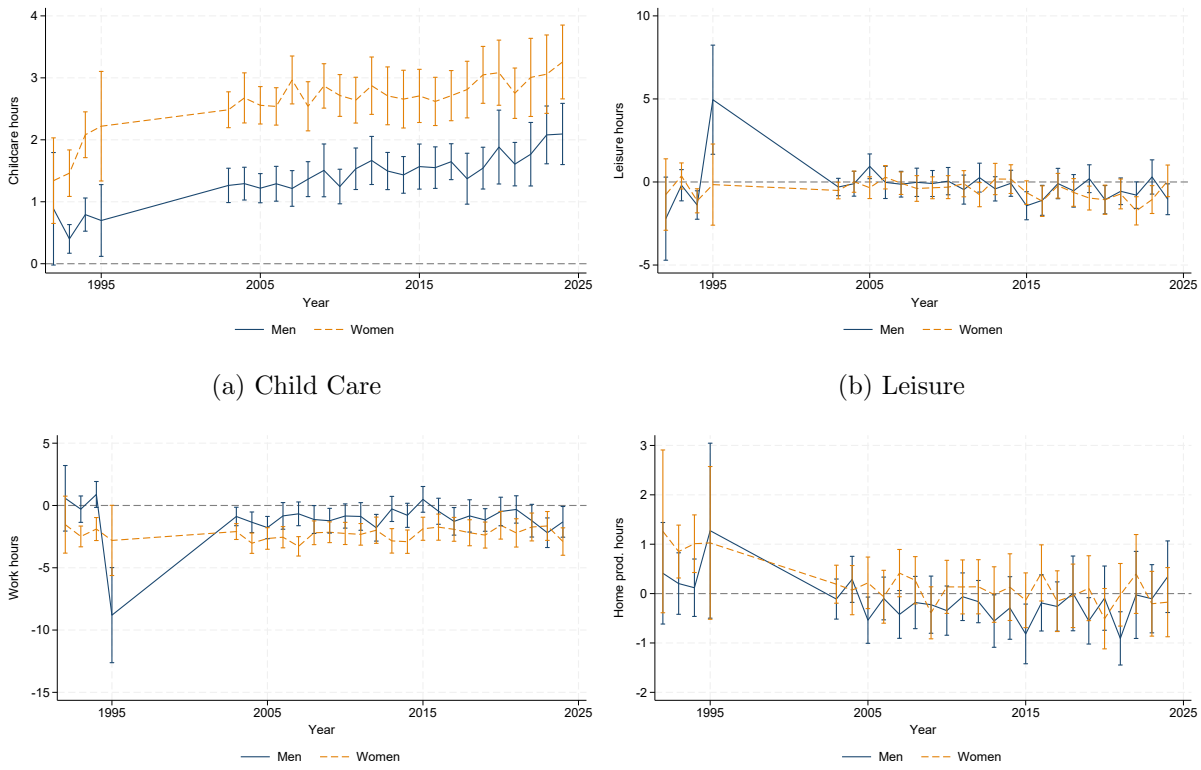


(h) 2010-2014



(i) 2015-2020

Figure A.5: Effect of One Child under 5 on Hours Allocation (Primary)



(a) Child Care

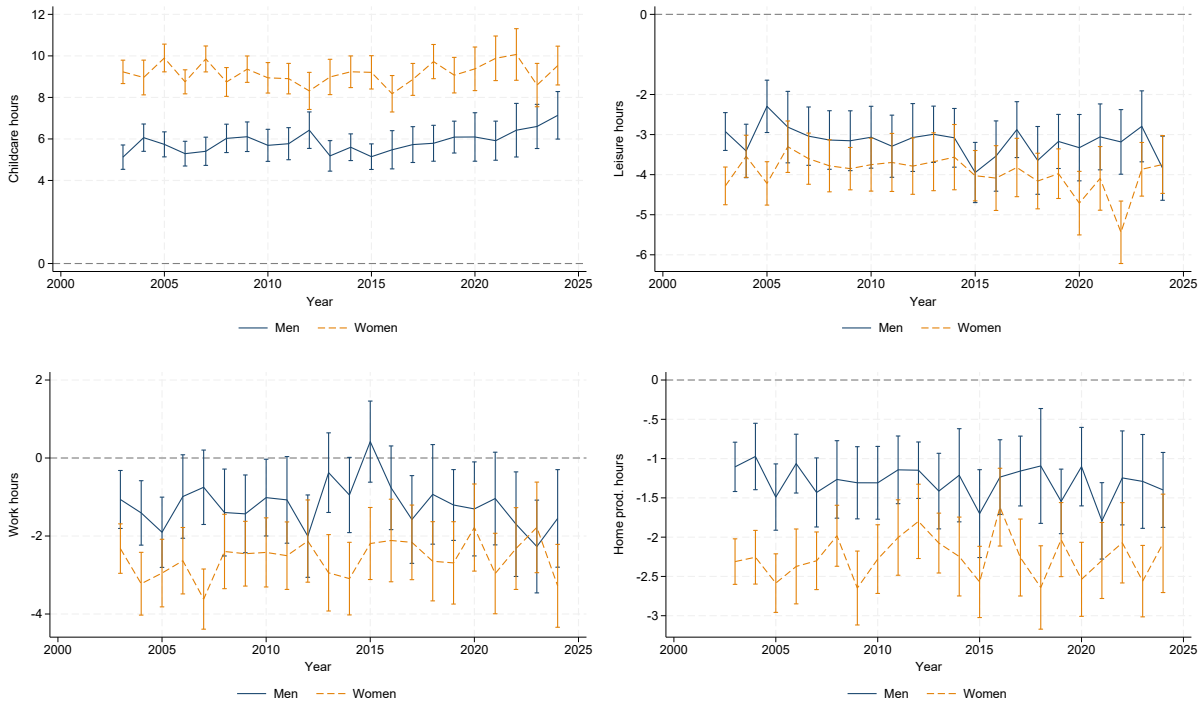
(b) Leisure

(c) Work

(d) Home Production

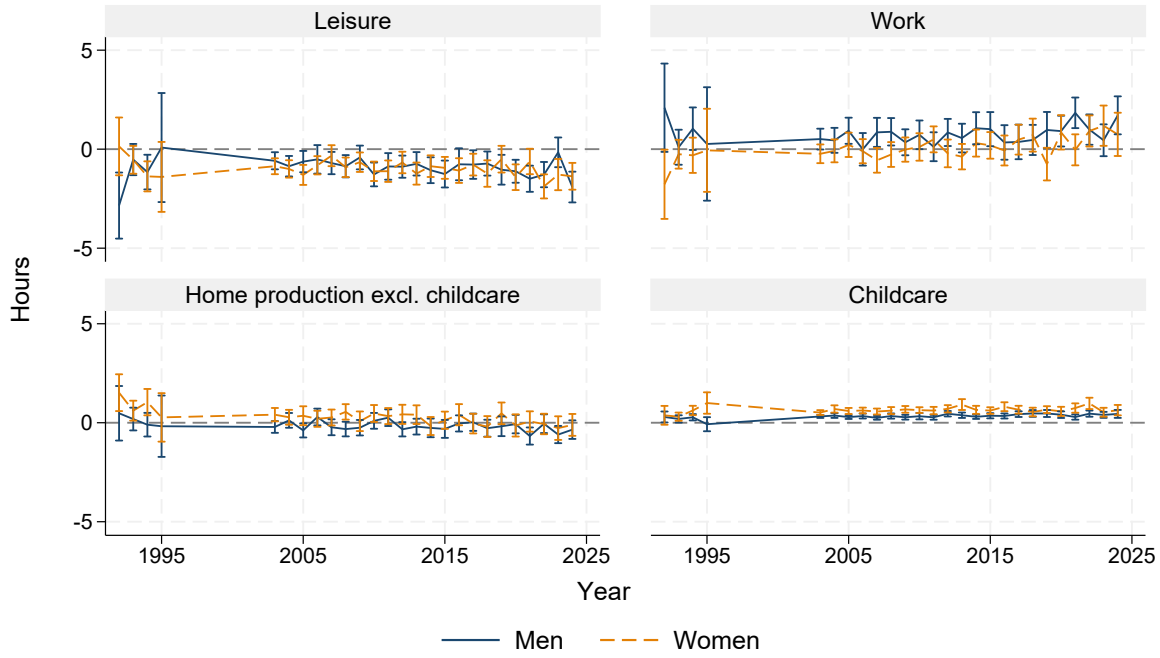
Notes: This figure presents the effect of having children on childcare time of married individuals, using data from AHTUS (1965–1999) and ATUS (2003–2024). The analysis compares married individuals with one child under five years old, to married individuals with no children. The model includes day of the week fixed effects and controls for age and education.

Figure A.6: Effect of One Child under 5 on Hours Allocation (Expansive)



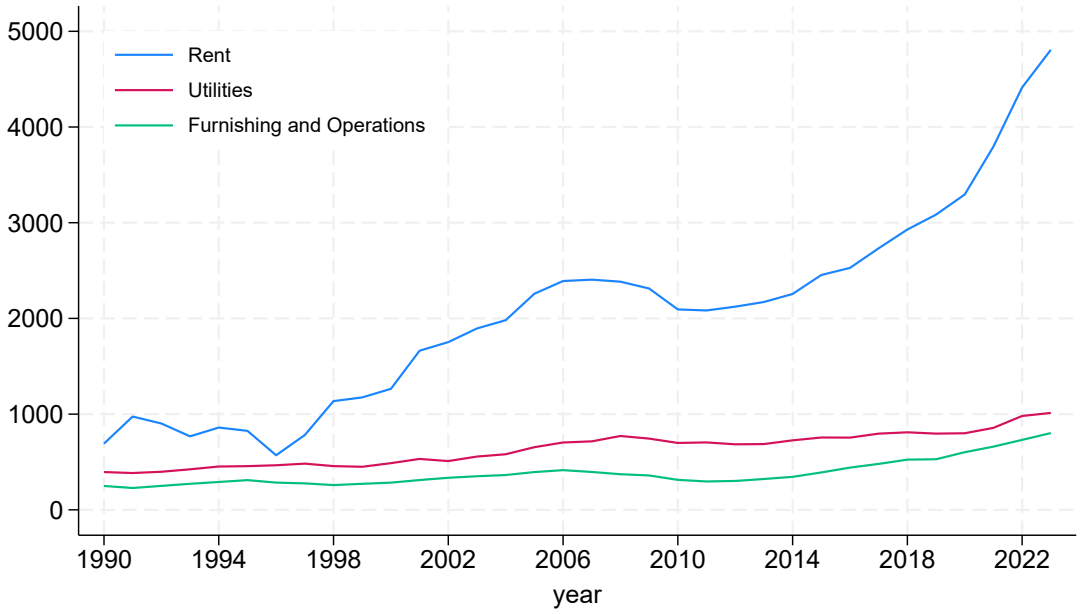
Notes: This figure presents the effect of having children on childcare time of married individuals, using data from AHTUS (1965–1999) and ATUS (2003–2024). The analysis compares married individuals with one child under five years old, to married individuals with no children. The model includes day of the week fixed effects and controls for age and education. We are excluding 1998-99 and 1999-2001 samples. We use the "expansive" definition of childcare, which includes activities for which children are present.

Figure A.7: Time Use: One Child Between 5-18



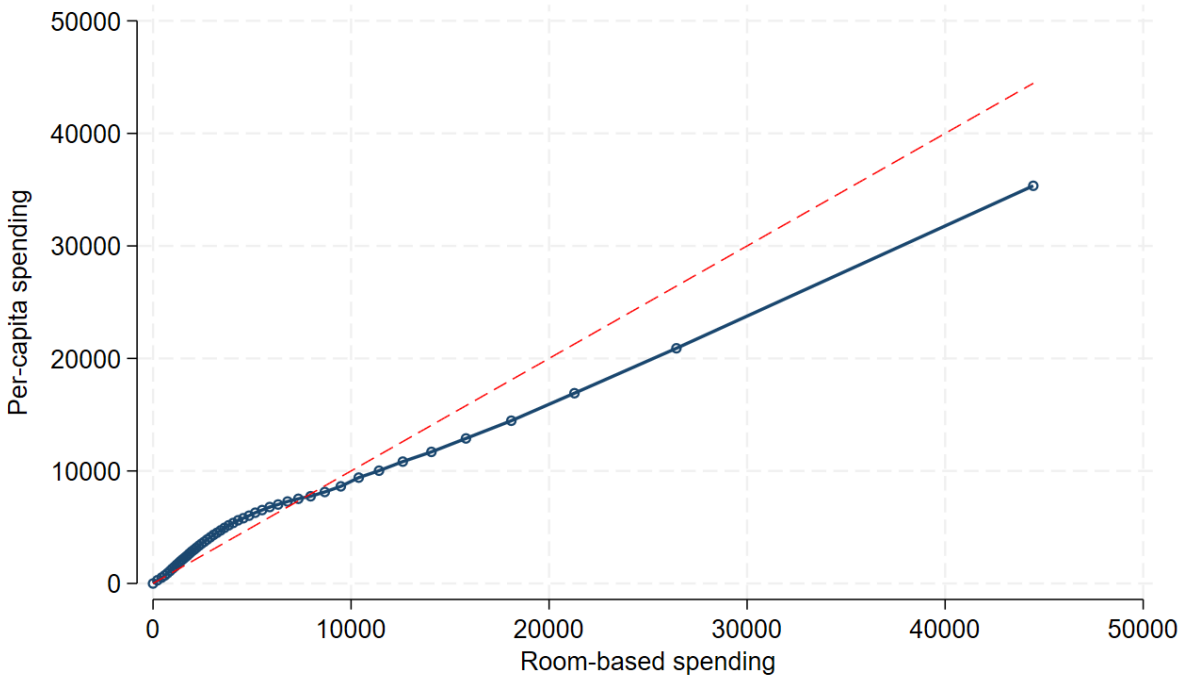
Notes: This figure presents the effect of having children on childcare time of married individuals, using data from AHTUS (1965–1999) and ATUS (2003–2024). The analysis compares married individuals with one child under five years old, to married individuals with no children. The model includes day of the week fixed effects and controls for age and education. We are excluding 1998-99 and 1999-2001 samples.

Figure A.8: Average Cost of Children's Housing Over Time - Marginal Bedroom Version



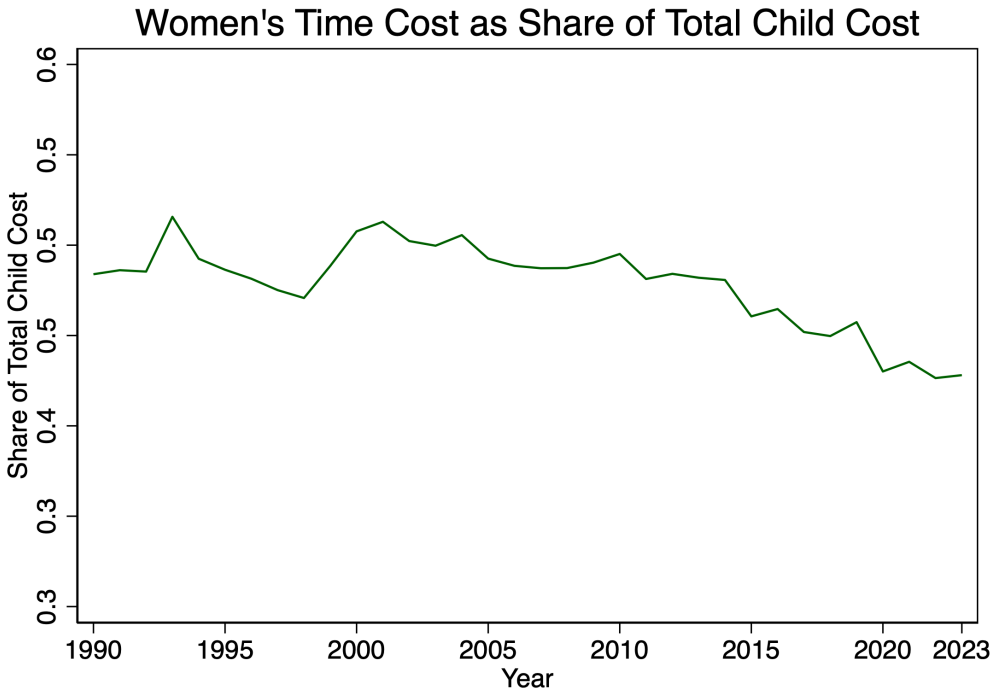
Notes: Estimated marginal cost of a child's housing over time under the bedroom-based allocation. The marginal cost of a bedroom is estimated from a regression of log household housing expenditure on bedroom-count indicators, income tercile, and census region fixed effects using Consumer Expenditure Survey data. See Section 3 for details of the allocation methodology.

Figure A.9: Comparison of Spending On Housing - Marginal Cost of a Bedroom vs Per Capita Allocation



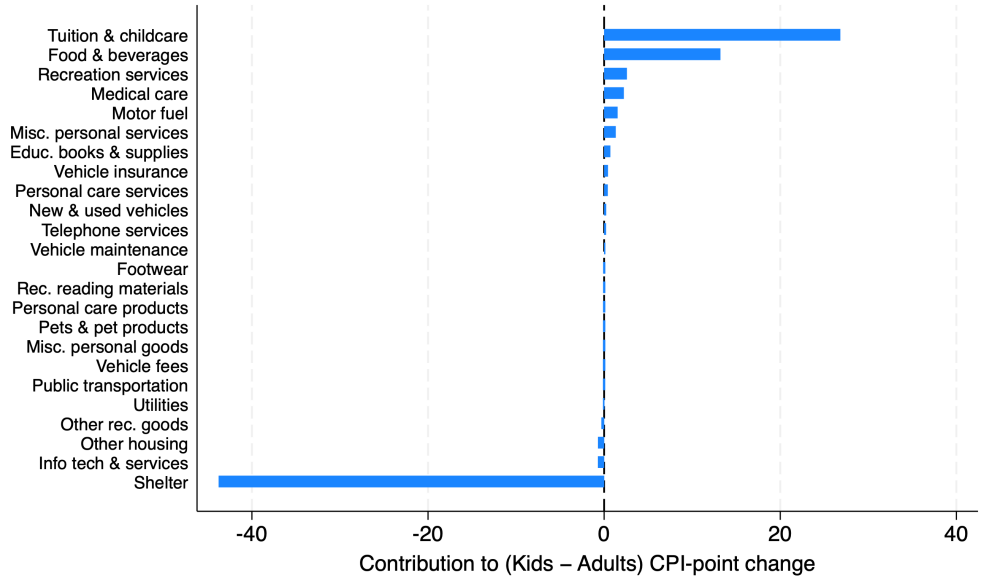
Notes: Each dot represents one bin out of 50 bins. The dotted red line represents equal spending on housing between the two versions.

Figure A.10: Women's Time Cost as Share of Total Child Cost, 1990–2015



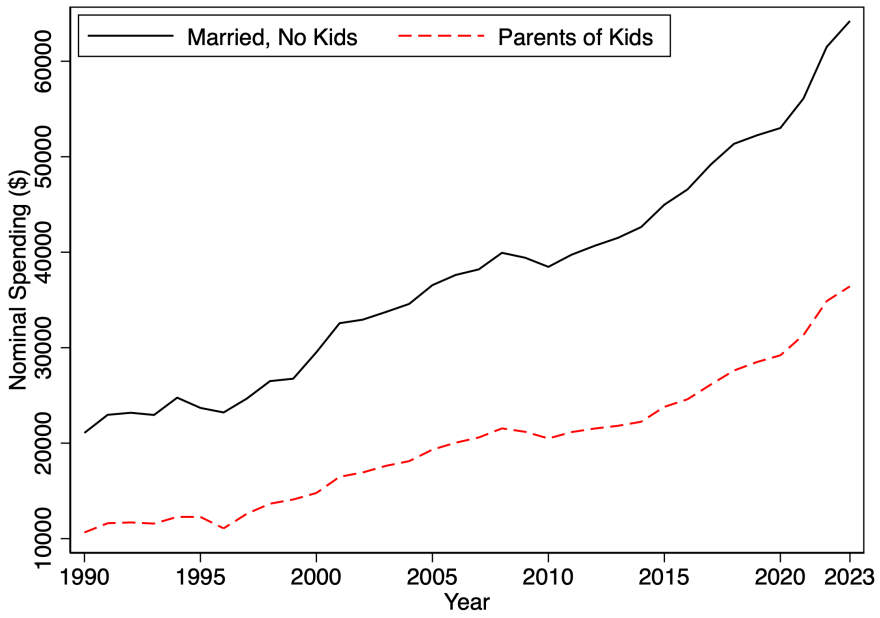
Notes: Share is computed as women's annual earnings loss from the motherhood penalty divided by the sum of that penalty plus nominal goods spending on children. Source: child penalty estimates from Kleven (2025) methodology applied to CPS; CEX goods spending from authors' calculations.

Figure A.11: Category Contributions to Child–Adult Inflation Gap (Bedroom Allocation, Robustness)



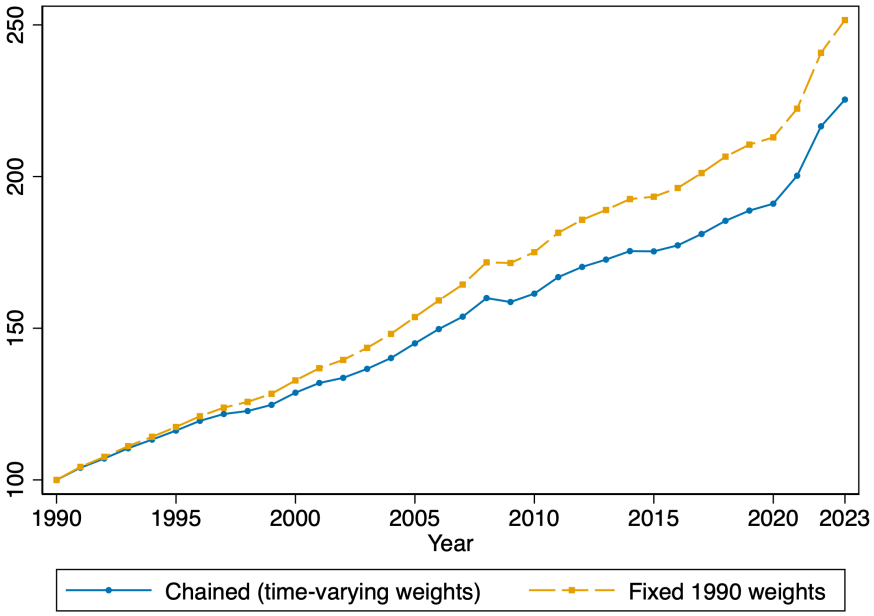
Notes: Same as Figure 5 but using the bedroom-based housing allocation for children. Contribution = $(\bar{s}_k^{\text{bedroom}} - \bar{s}_k^{\text{adults}}) \times \Delta\text{CPI}_k$. The main qualitative finding—tuition up, shelter down, roughly offsetting—is unchanged.

Figure A.12: Parental Consumption Gap Relative to Married Couples Without Children



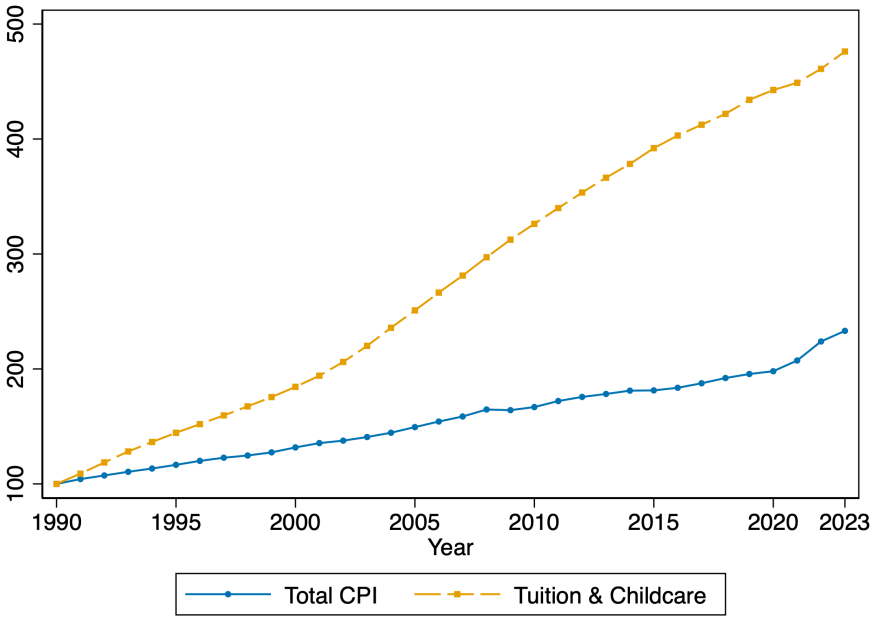
Notes: This figure plots the difference in log consumption between parents and married couples without children from 1990 to 2023. Negative values indicate that parents consume less than otherwise similar childless couples. The gap remains large and relatively stable over time, indicating that the reduction in adult consumption associated with having children has not increased substantially.

Figure A.13: Chained vs. Fixed-Weight Price Index: All Households, 1990–2023



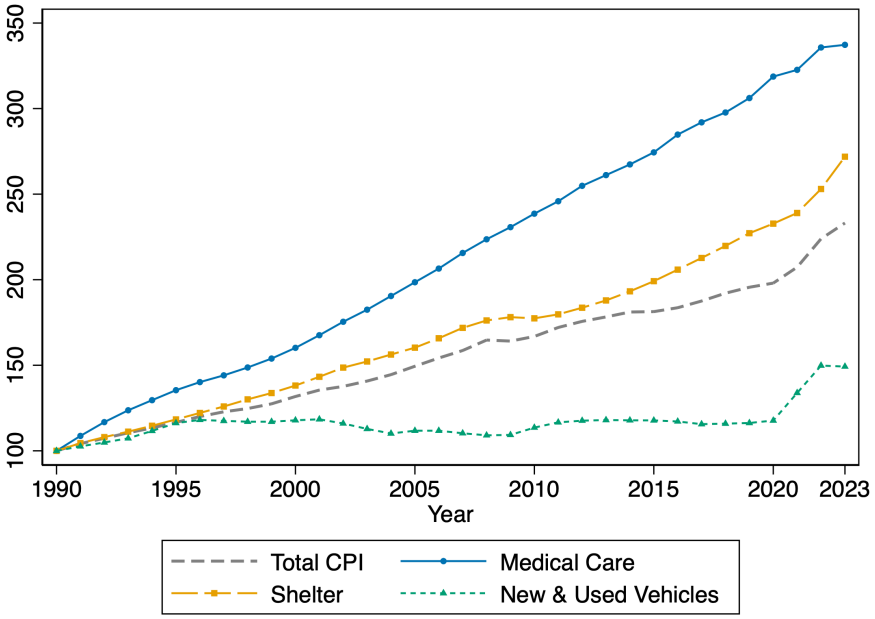
Notes: Price index for all CEX households constructed using time-varying (chained, Törnqvist) weights versus an index that holds spending shares fixed at their 1990 levels. Both series normalized to 100 in 1990. The gap between the two series—roughly 15–20 percent by 2023—reflects substitution bias: as relative prices change, households shift spending toward relatively cheaper goods, so a fixed-weight index overstates the true cost of a given standard of living. This pattern mirrors confirms that substitution is a general feature of household price indices, not specific to families with children.

Figure A.14: Total CPI vs. Tuition and Childcare CPI, 1990–2023



Notes: The BLS Consumer Price Index for all items ("Total CPI") and the sub-index for tuition, school fees, and childcare ("Tuition & Childcare", BLS series SEEB). Both series normalized to 100 in 1990. Source: Bureau of Labor Statistics.

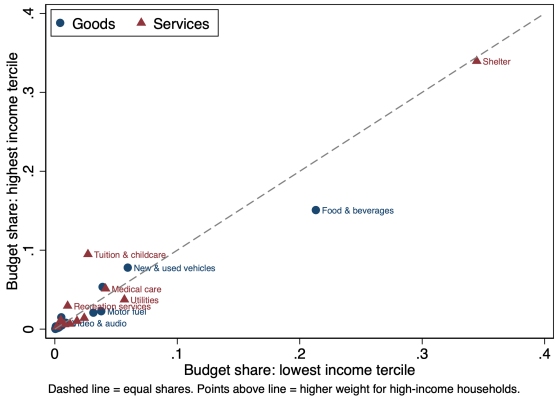
Figure A.15: Selected CPI Sub-Indices, 1990–2023



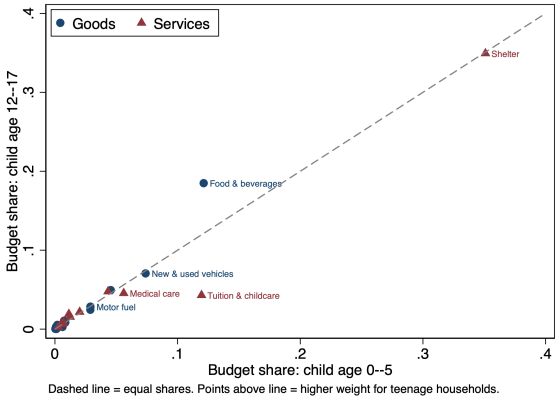
Notes: Total CPI (grey dashed) compared with medical care (SAM), shelter (SAH1), and new and used vehicles (SETA). All series normalized to 100 in 1990.

Figure A.16: Spending Shares by Income Tercile and Child Age Group

Panel A: Lowest vs. Highest Income Tercile

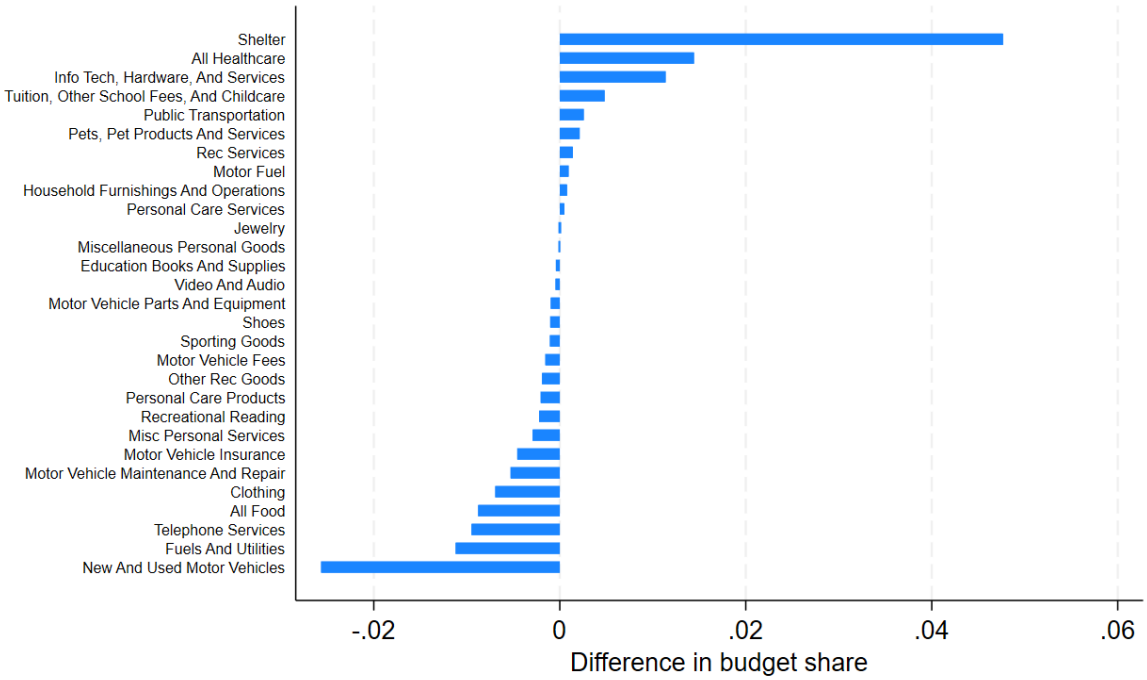


Panel B: Child Age 0–5 vs. Age 12–17



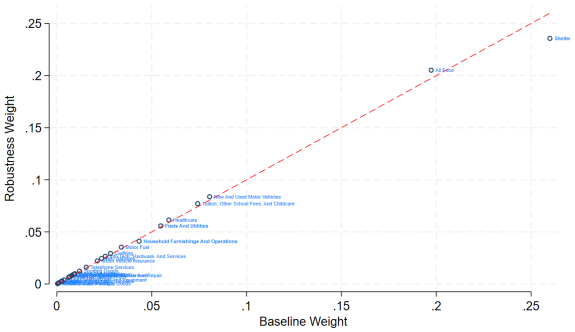
Notes: Each point is a CPI sub-category. Dashed line = equal shares across groups. *Panel A:* Horizontal axis: budget share for households with children in the lowest income tercile; vertical axis: highest income tercile. Weights are 2023 CEX averages. Points above the line have a higher weight for high-income households; points below have a higher weight for low-income households. *Panel B:* Horizontal axis: budget share for households with a child aged 0–5; vertical axis: child aged 12–17. Weights are 2023 CEX averages restricted to one-child households. Points above the line have a higher weight for teenage households; Tuition & childcare falls well below the line, confirming its outsized role for the youngest age group.

Figure A.17: Effect of Income on Budget Shares for Married Couples Without Kids

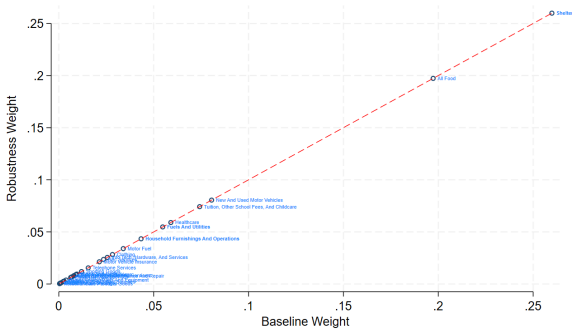


Notes: The mean budget share is computed for the 25th and 75th percentiles of the earnings distribution. The change plotted is the difference between the 75th percentile's average subcategory budget share and the 25th percentile's. Sample includes all married couples without kid, pooled over the sample period.

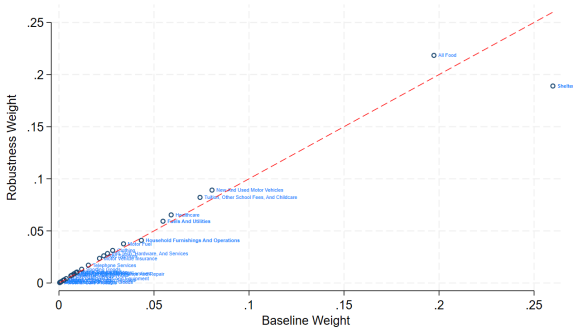
Figure A.18: Marginal Cost of a Bedroom Robustness Check: Weight Comparison Scatterplots



(a) 50 Income Groups



(b) 7+ Bedrooms



(c) By Income Tercile

Notes: In (a), 50 income groups were used as a control instead of 3 income groups in the housing regression. In (b), the regression included indicator variables for up to 7+ bedrooms instead of 5+. In (c), the regression was run separately for each income tercile. Each point is a 2023 CPI-subcategory weight. The dashed line represents equality between the two versions.