Childcare, Household Expenditures and Consumption of Unpaid Services: Evidence from the U.S. Panel Study of Income Dynamics

Leila Gautham
University of Massachusetts Amherst
lgautham@econs.umass.edu

Nancy Folbre
University of Massachusetts Amherst

While economists have long recognized the distinction between expenditures and consumption, they have been slow to acknowledge the economic value of unpaid family services. Recently, however, the U.S. Bureau of Labor Statistics has launched a project to use matched data from the American Time Use Survey (ATUS) and the U.S. Consumer Expenditure Survey (CE) that will generate estimates of total household consumption that include the imputed value of unpaid family work. This project highlights the need for closer empirical scrutiny of the relationship between expenditures and unpaid household services.

The Panel Study of Income Dynamics (PSID) offers a rich and unique opportunity for such scrutiny because it collects information on both components of family consumption, albeit in less detailed ways that the ATUS and CE. It also (unlike the ATUS) collects information on the time allocation (and unpaid services) of more than just one family member. We compare and validate measures of expenditures and unpaid household services in the PSID with their counterparts in the ATUS and CE. In particular, despite survey design differences in the elicitation of time use, time spent on common activities align well in the PSID and ATUS; adjusting childcare time in the PSID using ratios of active to total childcare from the ATUS eliminates nearly all of the incidence of overreporting due to simultaneous activities.

Our analysis of PSID data from 2017 (the first year that data on hours of unpaid childcare were collected) to 2019, begins with attention to bivariate relationship between family hours devoted to unpaid services and total expenditures, looking at differences across families by family composition, total family hours of employment, and family income. We focus on childcare, an important subcategory where expenditures and unpaid household services are clear substitutes. We examine the effect of presence of young children on the elasticity of expenditures with respect to time spent on unpaid household services.

We extend the implications of differential substitutability between unpaid work and expenditures across family types for inequality in the distribution of family consumption by developing three different imputations for the market value of unpaid household services in general and childcare services in particular (based on quality-adjusted replacement cost, opportunity cost, and the price of purchased market substitutes). We examine how measures of inequality in the distribution of

family consumption (such as the ratio of family consumption at various percentiles: P90/P10, P90/P50, and P50/P10) are affected by the inclusion of the value of unpaid household services, across imputation methods.

We test several hypotheses: Among 2-adult families with and without children under the age of 5:

(1) Hours devoted to unpaid services are largely unaffected by the overall level of family expenditures, except in families with children under the age of 5.
(2) The relationship between the value of unpaid services and total household expenditures is largely a function of presence of children under the age of 5 (and the valuation method).
(3) Variation in the relationship between hours devoted to childcare and expenditures on childcare is greatest (among 2-adult families) among those with only one full-time wage earner.
(4) The inclusion of the value of unpaid household services in family consumption reduces overall inequality in distribution of family consumption; this reduction is greater among families with children under the age of 5.

For purposes of illustration see the binned scatterplots below showing differences in the relationship between unpaid household services and total expenditures between couples with and without a child under 5 in 2017-2019.
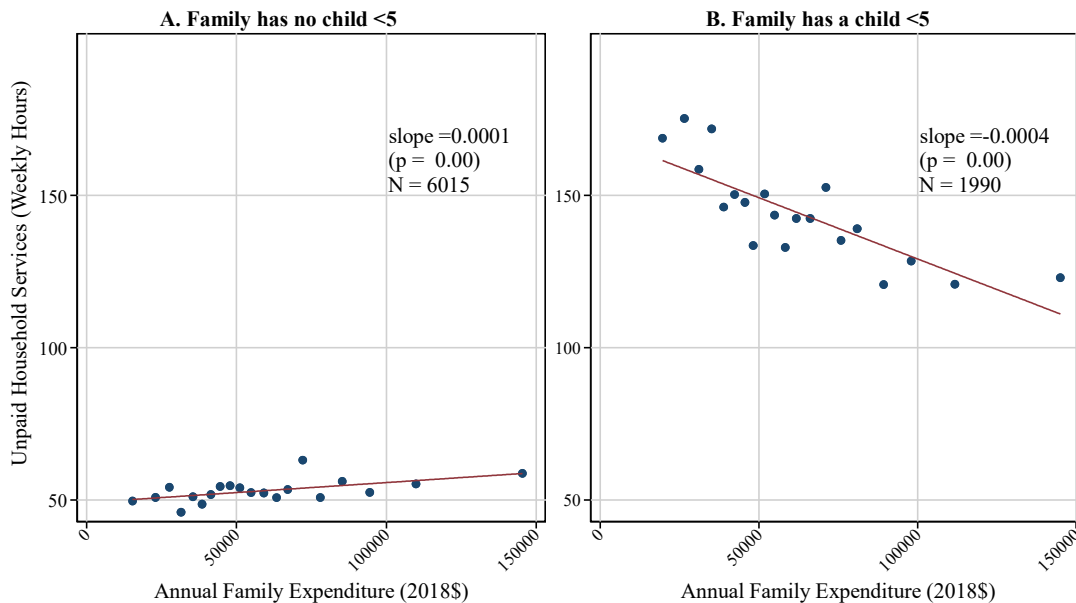

Figure 1. Weekly Family Hours on Unpaid Household Services Against Annual Family Expenditure. Source: PSID 2017 and 2019, families with only 2 adults, partnered to each other. Annual family expenditures (expressed in 2018 dollars) consist of expenditures on food, housing (does not include imputed rental value), transport, education, childcare, healthcare, clothing, vacations, and other recreation in the previous year. Unpaid household services are the total weekly hours spent by the reference person and their spouse/partner on household activities, purchasing goods and services, childcare, and adult care. PSID survey weights used.

A. Full-time employed

slope =-0.0001
(p = 0.09)
N = 999

B. Not full-time employed

slope =-0.0002
(p = 0.02)
N = 1003

Women's Unpaid Services
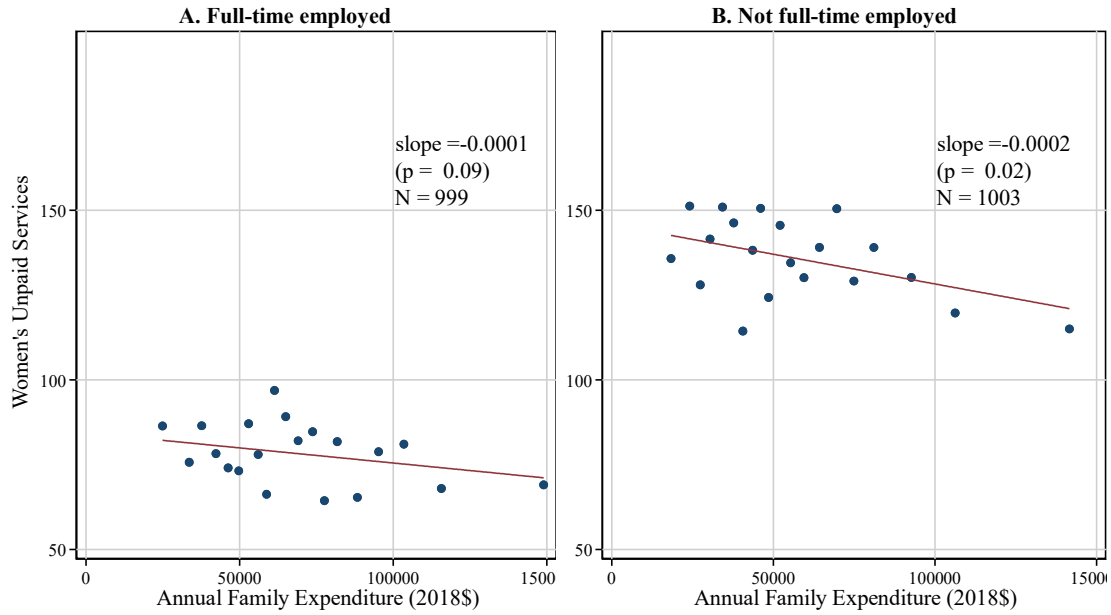
Annual Family Expenditure (2018$)

Figure 2. Women With a Child Under 5, by Full-Time Status: Weekly Individual Hours on Unpaid Household Services Against Annual Family Expenditure. Source: Same as Figure 1. Full-time defined as usually spending at least 35 hours per week on paid work.