The Effects of the Child Tax Credit on Labor Supply

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The Child Tax Credit (CTC) has been a politically popular US income tax policy; the Clinton, Bush, Obama and Trump administrations all offered their own proposals to expand the credit, most recently as part of the 2017 tax reform bill. However, relatively little research has examined the behavioral effects of the CTC, despite its similarity as a wage subsidy to the Earned Income Tax Credit (EITC), a tax policy that has attracted considerable interest for its effects on labor supply, health, and educational outcomes (Nichols and Rothstein, 2016). Policymakers have expressed interest in continuing to expand refundable credits that subsidize earnings, given their positive effects on a variety of dimensions, but most studies of the effects of the EITC were identified using policy changes in the 1980s and 1990s. There have been considerable changes in the economic and policy environment since that period, including welfare reform and the Great Recession, and some evidence suggests labor supply responses have declined for more recent tax reforms (Heim, 2007). Thus, examining the CTC can provide valuable evidence on how labor supply responses to expansions of refundable tax credits today compare with those in the past.

To identify the labor supply effects of the CTC, I exploit the fact that tax units are eligible for the credit based on their number of children under age 17 as of the end of the tax year. Other tax and transfer policies related to children typically change at ages 16 or 18, not age 17, meaning only the CTC changes at the age 17 cutoff. Thus, a family with a child born on January 1st, 1994 will receive a wage subsidy through the CTC for that child in the year 2010, while a family with a child born one day earlier on December 31st, 1993 will receive no wage subsidy in 2010. In practice, characteristics of children born in January and December differ on average due to seasonal factors, decisions related to timing of births, and incentives related to school starting ages; however, as these differences are empirically consistent over time, it is possible to factor out such patterns through a difference-in-regression discontinuities (DiRD) design. Under the identifying assumption that seasonal factors are time-invariant, comparing employment rates of parents with children just above and below the December age 17 cutoff (relative to parents above and below the December cutoff at earlier ages) can identify the effect of the CTC on labor supply.

I estimate a DiRD design using data from the Survey of Income and Program Participation (SIPP), focusing particularly on households in 2001 to 2012 with incomes in the range subsidized by the CTC. My main results indicate that low-income households with children just ineligible for the credit based on their month of birth are 8.8 percentage points less likely to be employed in the year where the credit fails to subsidize their earnings. Supporting these findings, I find insignificant effects for the placebo tests of households with earnings above the CTC's refundability threshold (for whom the credit is a lump-sum transfer) and for lower-income households in periods before the CTC was enacted. These results are consistent with a labor supply elasticity of 1.0 for low-income households at the age cutoff, at the upper end of estimates from previous studies on the EITC. Thus, my results suggest that tax credits promoting employment for low-income workers continue to have strong labor supply effects.