

Labor Supply Response to the Earned Income Tax Credit

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Earned Income Tax Credit

- ▶ After tax labor income is unambiguously higher under EITC expansion than before.
- ▶ EITC expansion should increase labor force participation.
- ▶ Change in hours is not unambiguous.

region	AB	BC	CD
substit. effect	+	0	-
income effect	-	-	-

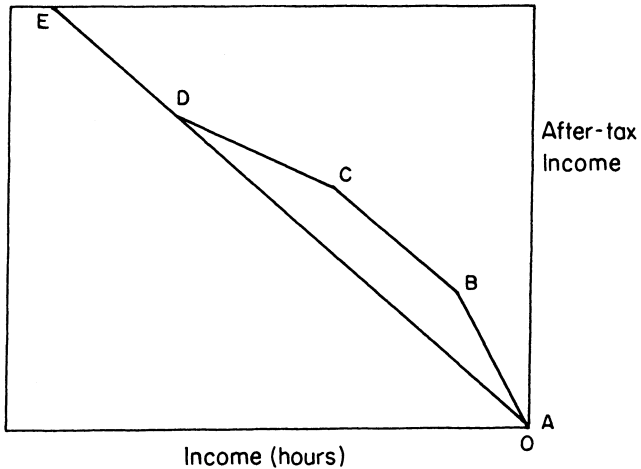


FIGURE I
EITC Budget Constraint

Endogeneity Issue in Estimation

$$u_i = X\beta + \gamma t + \eta W + \epsilon_i$$

$$lfp = 1(u_i > 0)$$

- ▶ lfp : labor force participation.
- ▶ High ϵ_i implies high willingness to work, which would mean long hours.
- ▶ Long hours would mean higher labor income, which results in higher tax rates.
- ▶ Hence, ϵ_i and t would be correlated, resulting in bias.

Estimation Strategy

EITC experienced a major expansion in 1986. So, estimate the following equation:

$$u_{it} = \alpha + \beta Z_{it} + \gamma_0 \text{treat} + \gamma_1 \text{post86} + \gamma_2 \text{treat} \times \text{post86} + \epsilon_{it}$$

$$\text{lfpr}_{it} = 1(u_{it} > 0)$$

treat: eligibility status for EITC.

Eligible if unmarried female head of household with children under 18 (or under 24 and attending college)

γ_2 : parameter estimate for the effect of EITC expansion on labor force participation.

Z_{it} : demographic and other controls, including time trend.

- ▶ Before and after analysis on treatment group:

$$u_{it} = \alpha + \beta X_{it} + \gamma_1 post86 + \epsilon_{it}$$

$$lfp_{it} = 1(u_{it} > 0)$$

cannot distinguish between the effect of policy and the time trend.

- ▶ Include in the sample non-eligible but similar group that have the same time trend: unmarried female head without children.

Required assumption for difference-in-difference estimation

- ▶ Both treatment and control groups have the same time trend.
- ▶ Z_{it} are exogenous.
- ▶ There are no other (policy) shocks that affect treatment and control groups than EITC during the policy period.

Simple Comparisons

- ▶ Data: 1985-1987, 1998-1991 March CPS
- ▶ Policy effect is positive and significant without added controls. Treatment group is unmarried women with children, control group is those without.
- ▶ If control group is women beyond highschool, then policy effect is positive but insignificant.

TABLE II
LABOR FORCE PARTICIPATION RATES OF UNMARRIED WOMEN

	Pre-TRA86 (1)	Post-TRA86 (2)	Difference (3)	Difference-in- differences (4)
<i>A. Treatment group:</i>				
With children [20,810]	0.729 (0.004)	0.753 (0.004)	0.024 (0.006)	
<i>Control group:</i>				
Without children [46,287]	0.952 (0.001)	0.952 (0.001)	0.000 (0.002)	0.024 (0.006)
<i>B. Treatment group:</i>				
Less than high school, with children [5396]	0.479 (0.010)	0.497 (0.010)	0.018 (0.014)	
<i>Control group 1:</i>				
Less than high school, without children [3958]	0.784 (0.010)	0.761 (0.009)	-0.023 (0.013)	0.041 (0.019)
<i>Control group 2:</i>				
Beyond high school, with children [5712]	0.911 (0.005)	0.920 (0.005)	0.009 (0.007)	0.009 (0.015)
<i>C. Treatment group:</i>				
High school, with children [9702]	0.764 (0.006)	0.787 (0.006)	0.023 (0.008)	
<i>Control group 1:</i>				
High school, without children [16,527]	0.945 (0.002)	0.943 (0.003)	-0.002 (0.004)	0.025 (0.009)
<i>Control group 2:</i>				
Beyond high school, with children [5712]	0.911 (0.005)	0.920 (0.005)	0.009 (0.007)	0.014 (0.011)

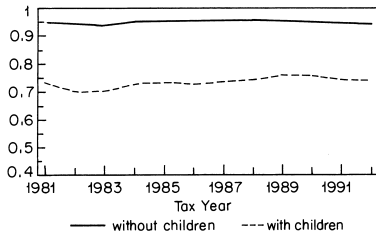
Data are from the March CPS, 1985–1987 and 1989–1991. Pre-TRA86 years are 1984–1986. Post-TRA86 years are 1988–1990. Labor force participation equals one if annual hours are positive, zero otherwise. Standard errors are in parentheses. Sample sizes are in square brackets. Means are weighted with CPS March supplement weights.

	No Controls	Demographic	+Unempl, AFDC
Kids	-1.053 (0.02)	-0.250 (0.03)	-1.403 (0.10)
post86	-0.001 (0.03)	0.019 (0.03)	-0.152 (0.07)
Kids \times post86	0.069 (0.03)	0.074 (0.03)	0.103 (0.04)

	2nd child
Kids	-1.458 (0.11)
post86	-0.094 (0.07)
Kids \times post86	0.087 (0.043)
2nd Kid \times post86	0.051 (0.043)

- ▶ Figure 2 shows that unmarried women without children and with children have similar time trend.
- ▶ 2nd child dummy not significant. EITC eligibility only depends on whether there is a child or not.

All Unmarried Females



Unmarried Males With Less Than High School Education

