ONLINE APPENDIX FOR

Effective Policy for Reducing Inequality: The Earned Income Tax Credit and the Distribution of Income

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Appendix updated June 2022 – The elasticity calculation in the published paper had an inconsistency in the calculation in the numerator and denominator. We have revised the appendix to use the difference in difference estimate in the numerator of the elasticity. We also include more information on the means used for the elasticity and provide a supplementary table that compares the elasticities in the published paper with the revised elasticities.

Data Appendix

Our primary source of data is the Current Population Survey March Annual Demographic File and Income Supplement (CPS). We use survey years 1985 through 2014 for the main analysis. We download this dataset from the IPUMS-CPS database (King, Ruggles, Alexander, Flood, Genadek, Schroeder, Trampe and Vick 2010).

We limit the sample to single women. Single is defined as separated, divorced, widowed, or never married. We limit the sample to women between the ages of 24 and 48. We do not use individuals under the age of 24 because they may be claimed as an EITC qualifying child if they are enrolled in school, creating ambiguity on who is subject to the credit. We drop women who did not work during the previous year because of illness, disability or school enrollment. We drop those living in Hawaii or Alaska.[1]

For the main analysis, we restrict to those with some college or less.[2] In contrast, others have focused on those with a high school degree or less (Meyer and Rosenbaum 2000, Eissa and Hoynes 2006). Excluding women who have some college education may ignore an increasingly important part of the EITC eligible population. Appendix Figure 3 plots the share of families that are eligible for the federal EITC by maternal education group. Those with some college experience exhibit a pattern of EITC eligibility that is similar to those with lower education levels.[3]

Pre-tax income information available in the CPS includes earnings, self-employed earnings, AFDC/TANF, General Assistance, UI, Worker's Compensation, veteran's benefits, SSI, social security, rail road retirement benefits, survivor benefits, disability benefits, retirement income, interest, dividends, income from rent, alimony, child support, and contributions from others outside of the household (Meyer, Mok and Sullivan 2008). The CPS also collects information on income from food stamps, school lunch, housing and energy subsidies at the household level. We allocate these to tax units using their proportional size within the household.

The CPS does not contain a consistent record of observed tax information.[4] We use income and family structure in the CPS to calculate federal and state income taxes and payroll taxes using the NBER TAXSIM program (Feenberg and Coutts 1993). Before we perform any restrictions on the data, we construct tax units by linking EITC qualified children to the youngest mother, grandmother or great-grandmother in the CPS-defined family between the ages 24 and 48 (our main sample age range). A qualified child is defined as under the age of 18 or between 19 and 23 and in school.[5] We link child to parent using the family linkage variables included in the IPUMS-CPS (IPUMS-USA 2014). IPUMS constructs variables that allow us to identify how members of the household are related to each other.

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[1] Appendix Table 5 relaxes some of these restrictions.
[2] Prior to 1992, this is defined as those with fewer than 4 years of college. After 1991, this is defined as those without a college degree.
[3] See Appendix Table 3 for DD estimates that include women of different education levels.
[4] In some years, the CPS does contain calculated income taxes, but not enough for our analysis.
[5] There are other rules for a qualifying child that we cannot observe and exclude: A child must live with the taxpayer for more than half the year, have a valid social security number, and must not be claimed as a dependent by another taxpayer (IRS 2016).

For example, suppose a household contains 3 individuals: a 25-year old mother, her infant child, and the child's 47-year old grandmother. We define the 25-year old mother as the primary tax filer, with one eligible child. If instead the mother was 17 years old, then the 47-year old grandmother is assigned as the primary tax filer, with two EITC eligible children.

Income information is aggregated up to the level of this tax unit. Using these tax units, we use TAXSIM to calculate income and payroll taxes. We assume that these tax units take the standard deduction[6], are fully compliant and take up the EITC if eligible.[7] We are unable to include "above the line" deductions that are not included in the CPS, such as education or moving expenses. It is important to remember that these taxes are calculated using all observed taxpayer information for each time period. This is not the case with the "simulated" taxes and transfers described below.

A woman is employed if she collects positive earned income anytime during the tax year. This includes self-employment earnings. After tax and transfer income is the sum of the cash and non-cash income available in the CPS, minus federal and state income taxes as well as payroll taxes. We do not adjust after tax and transfer income for non-cash benefits such as the fungible value of Medicaid or Medicare.[8]

Simulated taxes and transfers are summary measures of policy changes. For simulated income taxes, we begin with a sample of women from the survey year 1983 (applying the same restrictions described above). We then replicate this sample for each year in the sample, and adjust each source of income for inflation. Finally, we pass this dataset through NBER TAXSIM and take average tax values by tax year and family size.

We use the same sample and a similar process to calculate simulated welfare transfers (Hoynes and Luttmer 2011). We calculate AFDC/TANF benefits using a simple benefit formula:

$$B = G - \tau \times (E - D) - U,$$

where B is the amount of the benefit, G is the maximum benefit, τ is the tax rate (or the benefit reduction rate), E is countable taxpayer earnings, D is the flat earnings disregard, and U is taxpayer unearned income. The policy parameters are $G, \tau,$ and D. These parameters may vary by state, year and family size. We compiled these parameters from several sources (US House of Representatives, various years, UK Center for Poverty Research 2013, Urban Institute 2013). The calculator does not take into account time limits or work requirements (before or after welfare reform). As was the case with taxes, we use fixed family information to calculate the benefit, and then collapse to the cell level (state, year, family size).

[6] Among those most likely to receive a refundable credit, the share itemizing deductions is very small (Toder and Baneman 2012).

[7] EITC participation is high, with more than 80% of those who are eligible participating in the program during this period (Scholz 1994, Maynard and Dollins 2002).

[8] A complete record of what we include, and do not include, in our measure of after tax and transfer income can be found in Appendix Table 1. In addition, Appendix Table 1 also documents the subset of income sources used to compute Official Poverty.

Prior to welfare reform, states were allowed to test changes to AFDC if they applied for and received a waiver from the federal government (Crouse 1999). There were many different types of waivers, but they fell into 6 major categories: Work and training requirements, time limits on welfare receipt, family caps provisions, expanded income disregards, increased resource limits, Medicaid assistance for the transition to work, expanded eligibility for two-parent families, and improved child support enforcement. Our waiver indicator is equal to one if a state has had any waiver based on the date of first major welfare waiver (Bitler, Gelbach and Hoynes 2006). The waiver control is allowed to vary by family size (either no children versus 1 or more children, or one versus two or more children).

The Federal Poverty Threshold (FPT) varies by year and family size and is adjusted for inflation (Census 2014). In private correspondence with Census, we have confirmed that there are two errors in the thresholds: The value for a single parent family with one child in 1993 should be $9,960. The value for a two parent family with three children should be $17,245. These values have subsequently been corrected.[9]

Nominal dollars are converted to real dollars using the annual CPI-U.[10]

Unemployment rates by state and year come from the BLS Local Area Unemployment Statistics program (BLS 2013).

In addition to the reduced form, we have several other ways that we present the effect of the EITC. First, we rescale the reduced form using a first stage (indirect least squares). In this first stage, the RHS remains exactly the same as the reduced form, but the dependent variable is the federal EITC. This federal EITC is calculated by NBER TAXSIM and uses current income and taxpayer characteristics (it is not the simulated EITC described above). The rescaled effect is in terms of federal EITC dollars. We present this estimate in $1,000 increments for visual ease. We refer to this estimate as "Per $1,000 of policy-induced federal EITC". Second, we divide the indirect least squares estimate by the dependent mean to get a percent impact. This mean is sample specific. We refer to this estimate as the "% impact".

Third, we implement the extensive margin elasticity in Chetty, Guren, Manoli and Weber (2013). We define this elasticity as

$$\epsilon = \frac{\ln\left(\mathrm{P}_0^{\mathrm{T}} + \beta\right) - \ln\left(\mathrm{P}_0^{\mathrm{T}}\right)}{\ln\left(\mathrm{I}_1^{\mathrm{T,W}} - \mathrm{I}_1^{\mathrm{T,N}}\right) - \ln\left(\mathrm{I}_0^{\mathrm{T,W}} - \mathrm{I}_0^{\mathrm{T,N}}\right)},$$

where β is the estimated difference-in-difference estimate in equation (1) in the paper[11], $\mathrm{P}_0^{\mathrm{T}}$ is mean participation in the pre-treatment period (subscript 0) among the treated group (superscript

[9] December 13, 2014: https://www.census.gov/hhes/www/poverty/data/threshld/thresh93.html
[10] Consumer Price Index – All Urban Consumers, series CUUR0000SA0, US city average, all items, chained to 1982-84, annual (BLS 2014).
[11] In the published paper we used the estimated impact per $1,000 increase in the EITC. Here we revise the formula to use the total effect over the period, or the difference in difference estimate.

T), $I_1^{T,W}$ is mean after tax and transfer income (ATTI) in the post-treatment period among the treated group who are working (superscript W), $I_1^{T,N}$ is mean ATTI in the post-treatment period among the treated group who are not working, $I_0^{T,W}$ is mean ATTI in the pre-treatment period among the treated group who are working, and $I_0^{T,N}$ is mean ATTI in the pre-treatment period among the treated group who are not working. Intuitively, we can think of this elasticity estimate as the log change in labor force participation due to the EITC over the log change in after tax and transfer income from working induced by the EITC. We modify this elasticity for use with poverty rates. In particular, we replace P_0^T with $S_0^{T,100\%}$, the share of taxpayers above 100% of the federal poverty threshold in the pre-treatment period, among the treated group. The result is an elasticity measuring tax unit movement out of poverty due to EITC induced changes in after tax and transfer income.

The table below gives the means for these variables for our main sample and the alternative education samples in Appendix Table 3. Following our difference in difference design, for the pre period we use years 1991-1993 and for the post period we use years 1994-1998.

Appendix Table: Means Used for Elasticity Calculations

	Treatment Group	
	1+ Children	2+ Children
Main Sample: Some college or more		
Employment, pre period	0.750	0.674
Above 100% FPL, pre period	0.584	0.491
ATTI, pre-period, working	$24,020	$24,477
ATTI, pre-period, not working	$11,331	$12,563
ATTI, post-period, working	$25,892	$26,218
ATTI, post-period, not working	$9,547	$10,969
All Education (App Table 3)		
Employment, pre period	0.768	0.696
Above 100% FPL, pre period	0.620	0.531
ATTI, pre-period, working	$26,218	$26,884
ATTI, pre-period, not working	$12,051	$13,010
ATTI, post-period, working	$28,251	$28,221
ATTI, post-period, not working	$9,946	$11,206
HS or less (App Table 3)		
Employment, pre period	0.690	0.607
Above 100% FPL, pre period	0.498	0.401
ATTI, pre-period, working	$21,757	$21,912
ATTI, pre-period, not working	$10,991	$12,095
ATTI, post-period, working	$23,304	$23,337
ATTI, post-period, not working	$9,329	$10,686

In section 7, we use three measures of poverty to estimate the aggregate number of individuals and children who are above federal poverty threshold multiples (50%, 100%, 150% and 200%). We determine after tax and transfer income poverty status with the EITC and without the EITC, using family-level variables to calculate the EITC and the appropriate federal poverty threshold. We aggregate using the appropriate weights (all individuals, or just children) and subtract to calculate the number who move across a poverty threshold due to the EITC. We do this for each multiple of the federal poverty threshold. Next, we integrate our estimates into a measure of poverty, "ATTI poverty with behavior," in the following way: First, we extend the parameterized difference-in-difference model (equation 3) to include all tax years between 1984 and 2013. The outcome is equal to one if a family's after-tax and transfer income is above a multiple of the

poverty threshold. We use the conservative control set, which includes controls for business cycles and other tax and transfer programs (such as those used in column 2 of table 3). Second, we predict fitted values with and without the simulated EITC. By excluding the measure of EITC policy expansions, we predict the probability a family is above a poverty threshold in a world without the EITC, based on observable characteristics. Finally, we multiply the average share of the fitted values in both scenarios by the appropriate weights and take the difference.

Appendix References

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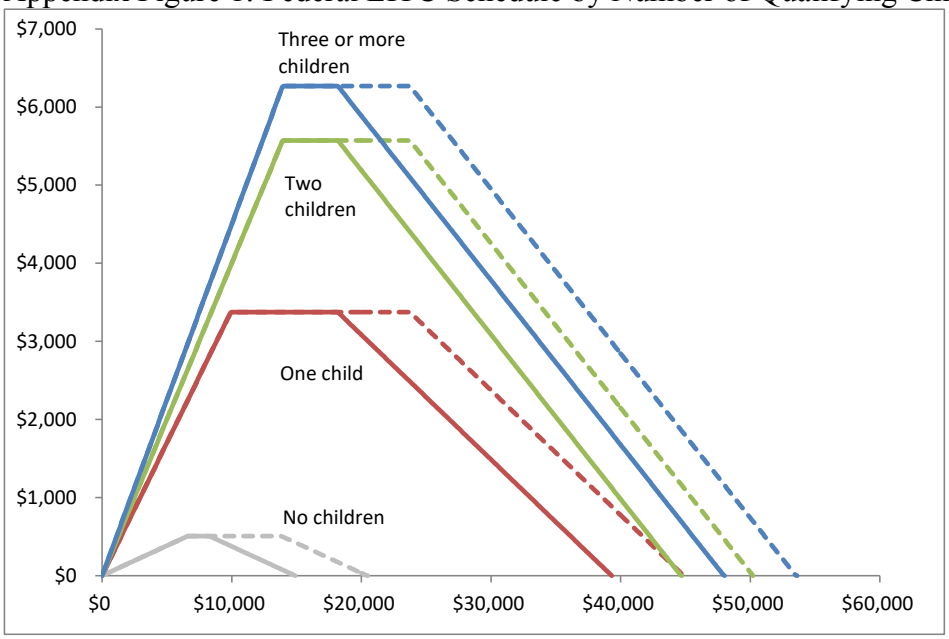
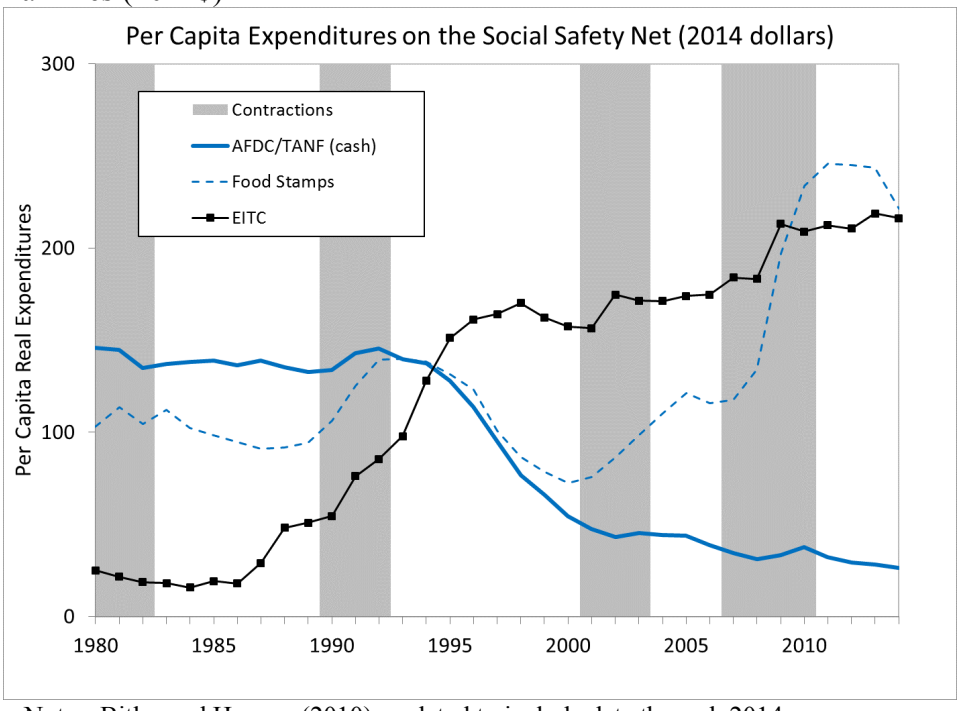
Appendix Figure 1: Federal EITC Schedule by Number of Qualifying Children, 2016



Notes: Tax Policy Center (2016), 2016$. Solid lines correspond to taxpayers filing single. Dotted lines correspond to taxpayers filing joint returns.

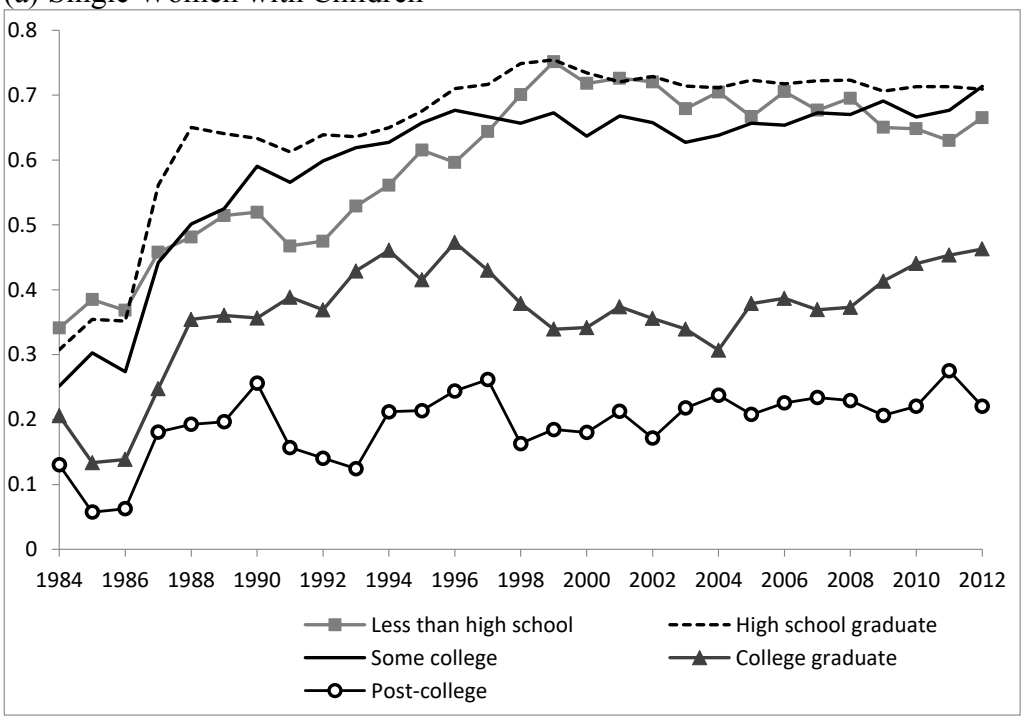
Appendix Figure 2: Per Capita Expenditures on Cash and Near Cash Transfer Programs for Families (2014$)



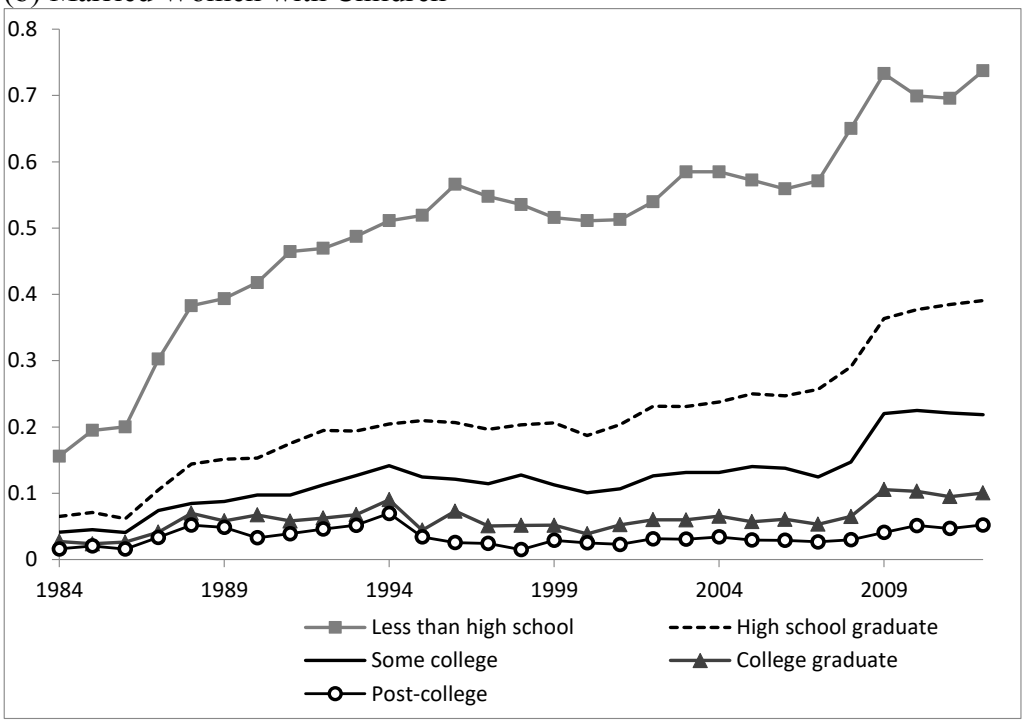
Notes: Bitler and Hoynes (2010), updated to include data through 2014.

Appendix Figure 3: Share EITC Eligible by Maternal Education Group

(a) Single Women with Children



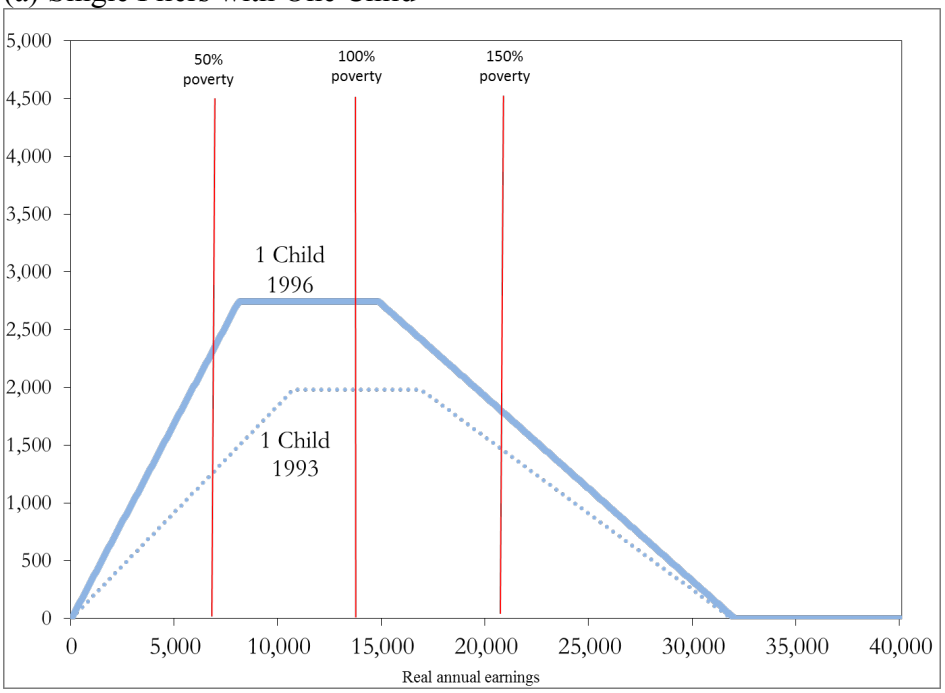
(b) Married Women with Children



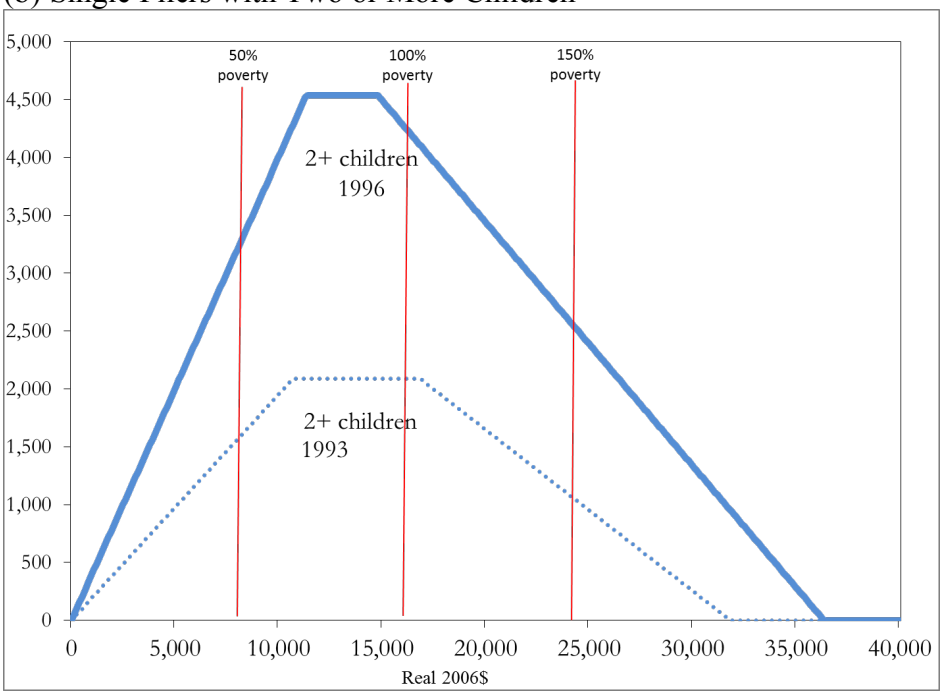
Notes: 1985-2014 CPS, women with children, 24-48 years old.

Appendix Figure 4: Federal EITC Schedule (1993, 1996) and Multiples of the Federal Poverty Threshold

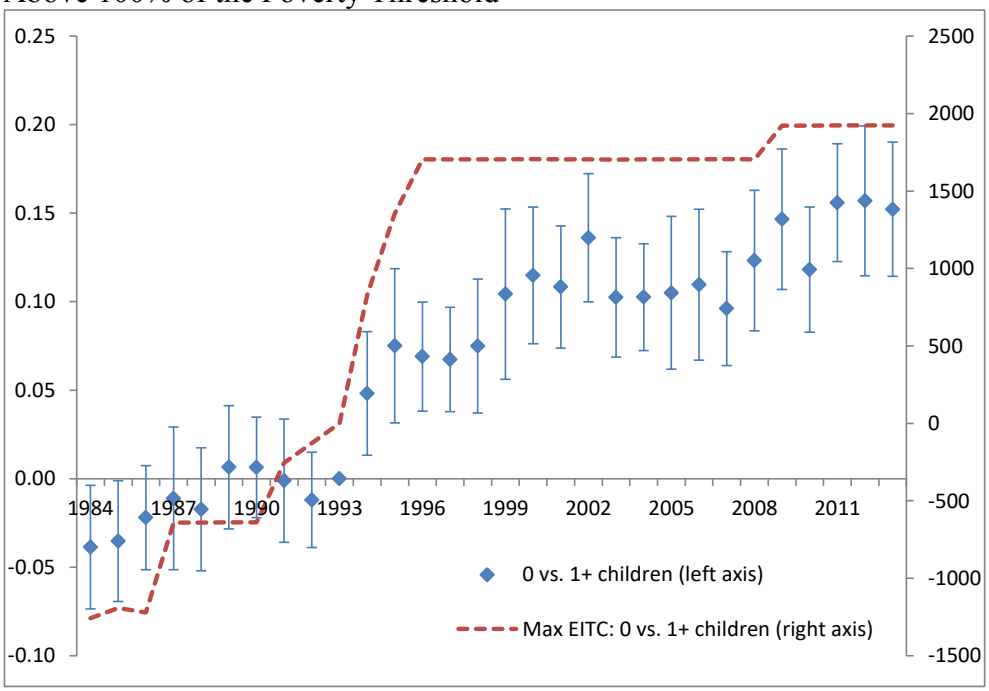
(a) Single Filers with One Child



(b) Single Filers with Two or More Children

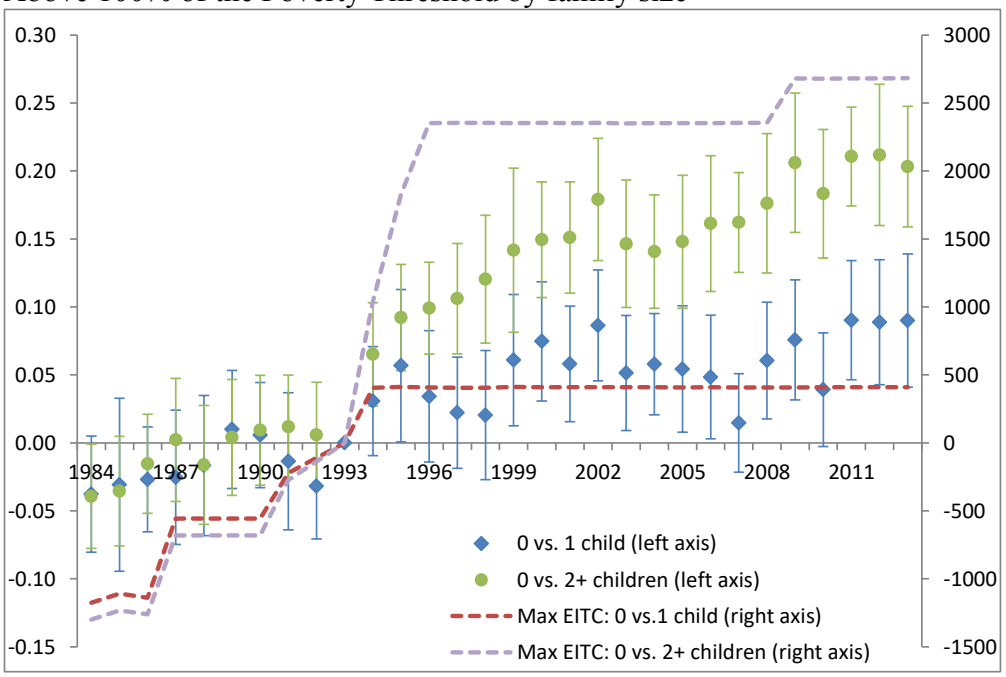


Appendix Figure 5: Event Model Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above 100% of the Poverty Threshold



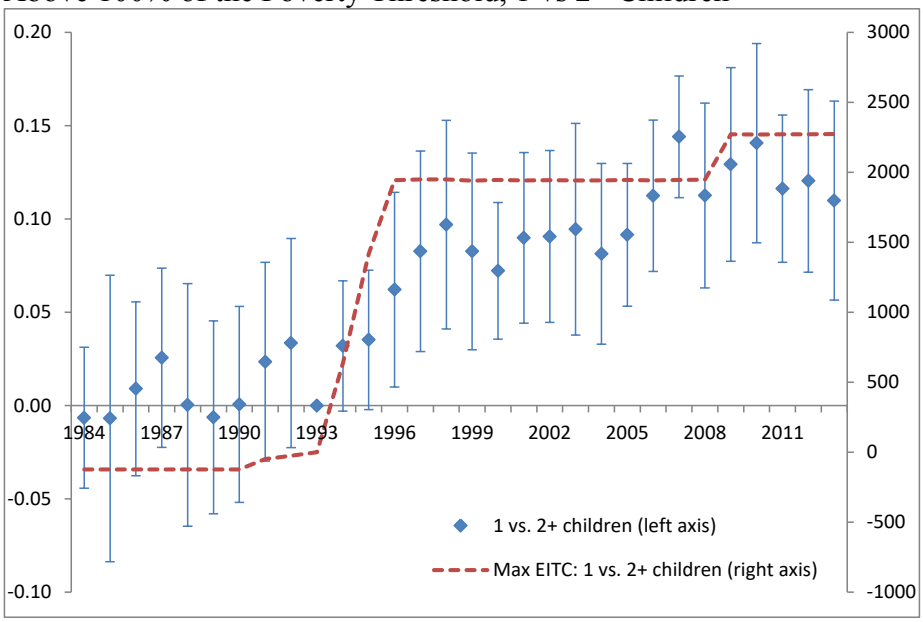
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Appendix Figure 6: Event Model Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above 100% of the Poverty Threshold by family size



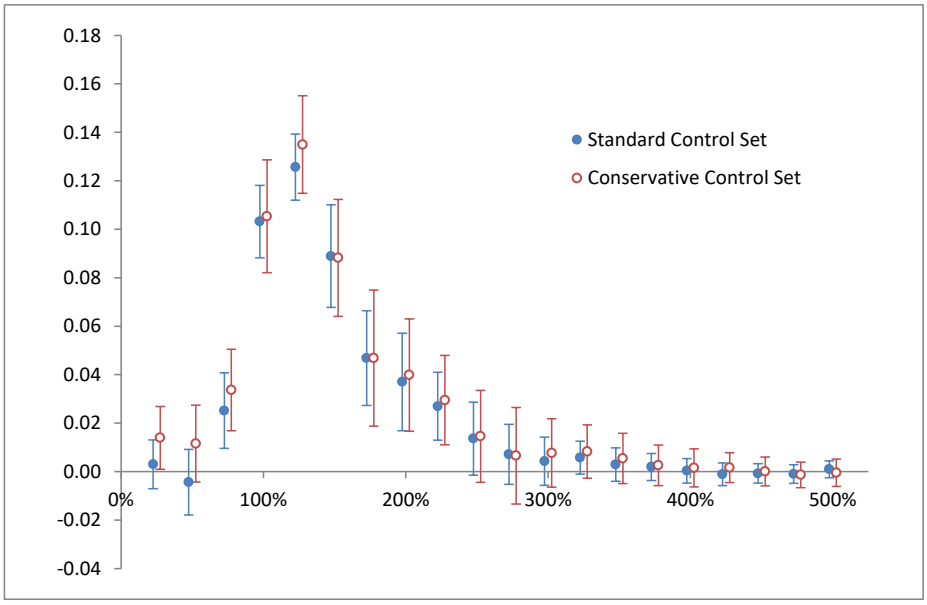
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Appendix Figure 7: Event Model Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above 100% of the Poverty Threshold, 1 vs 2+ Children



Notes: The sample includes single women with children, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

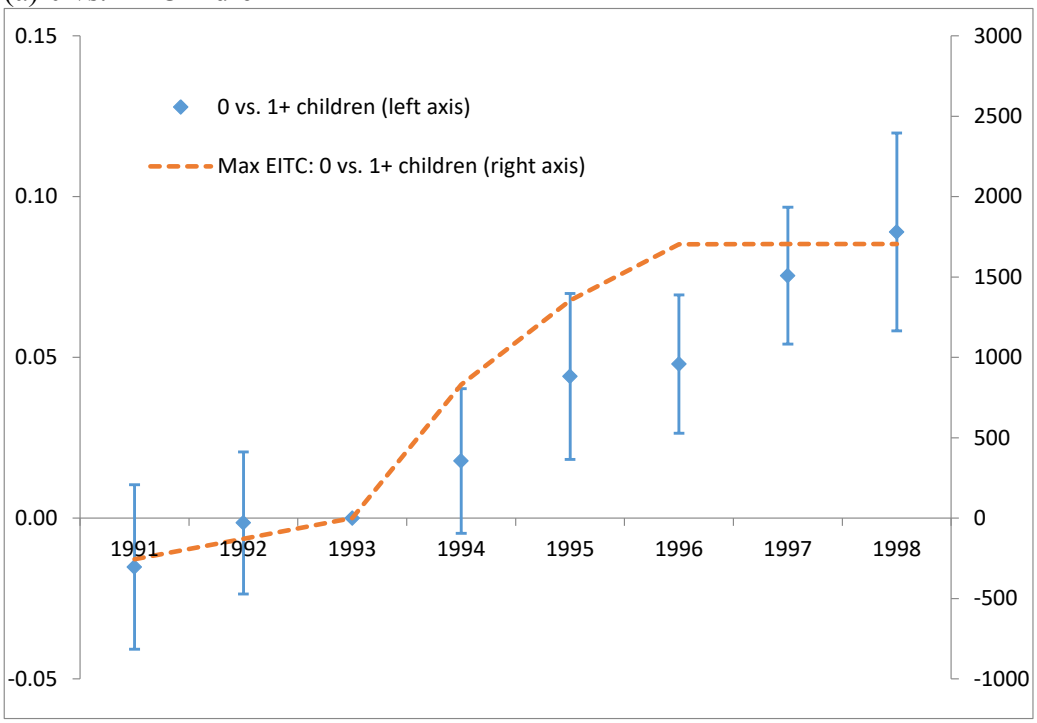
Appendix Figure 8: Parameterized DD Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above Multiples of the Federal Poverty Threshold, 0 vs. 1+ Children, with and without Conservative control set



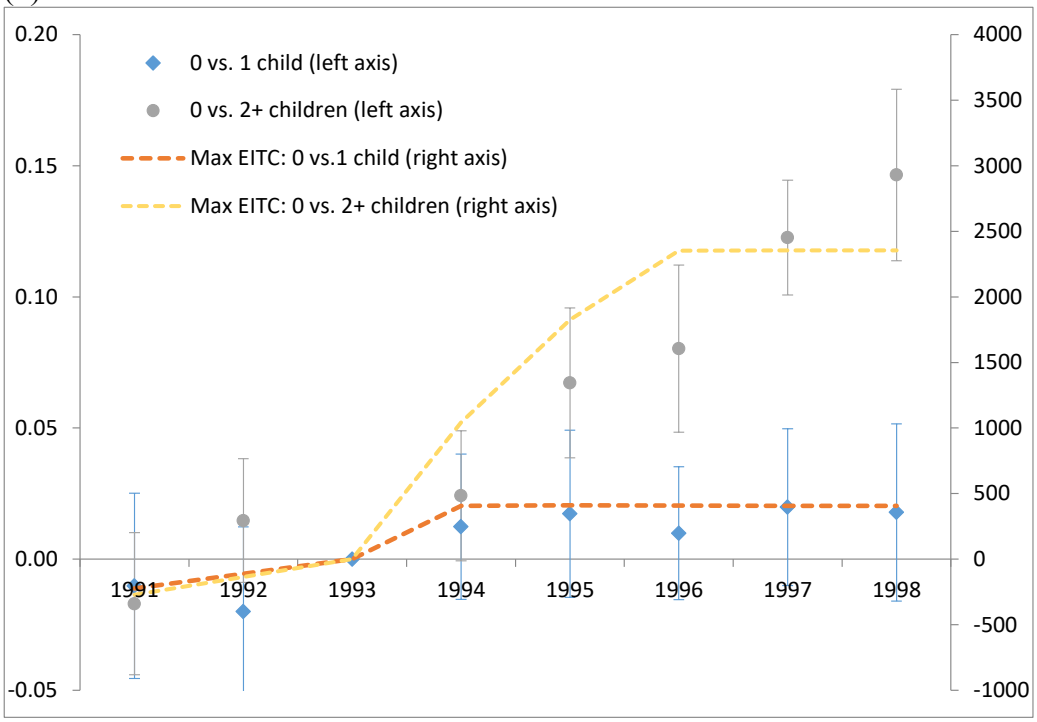
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 1999 Current Population Survey (March). Each dot and whisker represents a single regression estimate and confidence interval. Simulated EITC constructed from 1983 CPS and TAXSIM. See equation (3) in text and data appendix for details. 95% confidence intervals clustered on state.

Appendix Figure 9: Event Time Model Estimates of OBRA 93 on Any Work During the Year

(a) 0 vs. 1+ Children



(b) 1 vs. 2+ Children



Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Appendix Table 1: ATT Income Sources

	Resource measures	
	Official Poverty	ATT Poverty
Private Income		
Wages and salaries	X	X
Self-employment income	X	X
Farm income	X	X
Returns from assets	X	X
Child support and alimony	X	X
Private disability and retirement	X	X
Transfers		
AFDC/TANF	X	X
Social Security Ret. / SSDI	X	X
SSI	X	X
Unemployment Insurance	X	X
Veterans payments, workers' comp	X	X
Food Stamps		X
Free/Reduced lunch		X
Housing subsidies		X
Energy subsidy (LIHEAP)		X
Fungible value of Medicaid		
Fungible value of Medicare		
Federal taxes		
EITC		X
Child Tax Credit		X
Additional Child Tax Credit		X
Other federal taxes		X
FICA contrbutions		X

Appendix Table 2: Summary Statistics

	Without children	With children
Average age	34.0	34.4
	(0.1)	(0.1)
Share with HS degree or more	0.876	0.789
	(0.006)	(0.010)
Share white	0.785	0.648
	(0.016)	(0.027)
Average number of children		1.879
		(0.015)
Share divorced	0.361	0.679
	(0.014)	(0.012)
Average federal EITC	$16	$951
	(1)	(38)
Share employed	0.892	0.776
	(0.006)	(0.017)
Average earnings	$28,722	$22,063
	(428)	(367)
Average after tax and transfer income	$22,118	$25,068
	(259)	(287)
After tax and transfer income above	0.745	0.617
100% of poverty line	(0.007)	(0.007)
Observations	48,989	47,215

Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 1999 Current Population Survey (March). Taxes calculated using the NBER TAXSIM program. Standard errors clustered on state.

Appendix Table 3: Difference-in-Difference Estimates of OBRA93 on ATT Income Above 100% of the Poverty Threshold by Education Level

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
	All education levels			
(Year > 1993) * (1+ children)	0.056***	0.058***		
	(0.01)	(0.01)		
(Year > 1993) * (2+ children)			0.036***	0.018
			(0.01)	(0.01)
Per $1000 of federal EITC	0.073	0.097	0.048	0.045
% impact	9.8%	13.0%	7.1%	6.6%
Extensive margin elasticity	0.43	0.57	0.42	0.40
Observations	67,605	67,605	28,509	28,509
Mean of the dependent variable	0.747	0.747	0.674	0.674
	HS grad or less			
(Year > 1993) * (1+ children)	0.069***	0.079***		
	(0.01)	(0.01)		
(Year > 1993) * (2+ children)			0.037***	0.021
			(0.01)	(0.01)
Per $1000 of federal EITC	0.078	0.120	0.050	0.059
% impact	12.8%	19.6%	9.0%	10.6%
Extensive margin elasticity	0.56	0.83	0.46	0.54
Observations	30,249	30,249	16,182	16,182
Mean of the dependent variable	0.610	0.610	0.555	0.555
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes single women, ages 24 through 48 from the 1992 through 1999 Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Appendix Table 4: Parameterized DD Estimates of OBRA93 on ATT Income Above 100% of the Poverty Threshold (1993 CPS)

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
Simulated EITC ($1,000)	0.111***	0.115***	0.096***	0.099**
	(0.01)	(0.01)	(0.02)	(0.04)
Per $1000 of federal EITC	0.072	0.079	0.059	0.075
% impact	10.3%	11.5%	9.1%	11.7%
Extensive margin elasticity	0.46	0.50	0.46	0.58
Observations	50,508	50,508	25,101	25,101
Mean of the dependent variable	0.692	0.692	0.640	0.640
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). Simulated EITC constructed from 1993 CPS and TAXSIM. See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Appendix Table 5: Relaxing Restrictions (Difference-in-Difference Estimates of OBRA93 on ATT Income Above 100% of the Federal Poverty Threshold)

Model:	Baseline		Add 21-23 year olds		Add disabled or in school		Remove some college	
(Year > 1993) * (1+ children)	0.070***	0.074***	0.071***	0.076***	0.067***	0.063***	0.064***	0.075***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Per $1000 of federal EITC	0.084	0.118	0.090	0.132	0.090	0.118	0.074	0.118
% impact	12.2%	17.0%	14.0%	20.5%	13.7%	17.9%	12.1%	19.4%
Extensive margin elasticity	0.53	0.72	0.67	0.96	0.71	0.92	0.56	0.87
Observations	50,508	50,508	66,024	66,024	58,886	58,886	32,575	32,575
Mean of the dependent variable	0.692	0.692	0.642	0.642	0.657	0.657	0.611	0.611
Controls								
Demographics	X	X	X	X	X	X	X	X
# of children indicators	X	X	X	X	X	X	X	X
State * year indicators	X	X	X	X	X	X	X	X
Simulated tax & transfer benefits		X		X		X		X
Any AFDC waiver * 1+ children		X		X		X		X
Any AFDC waiver * 2+ children								
Unemp rate * 1+ children		X		X		X		X
Unemp rate * 2+ children								

Notes: The baseline sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). Moving left, restrictions are modified but are not nested. See text and data appendix for more details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Appendix Table 6: Parameterized DD Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above 100% of the Federal Poverty Threshold, 1984-2013

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
Simulated EITC ($1,000)	0.167***	0.114***	0.184***	0.127***
	(0.01)	(0.01)	(0.01)	(0.01)
Per $1000 of federal EITC	0.092	0.075	0.093	0.074
% impact	13.1%	10.6%	13.9%	11.1%
Extensive margin elasticity	0.31	0.26	0.34	0.28
Observations	218,970	218,970	114,386	114,386
Mean of the dependent variable	0.702	0.702	0.669	0.669
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). Simulated EITC constructed from 1983 CPS and TAXSIM. See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Appendix Table 7: Difference-in-Difference Estimates of OBRA93 on Any Work During the Year

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
(Year > 1993) * (1+ children)	0.061***	0.047***		
	(0.01)	(0.01)		
(Year > 1993) * (2+ children)			0.062***	0.024
			(0.01)	(0.02)
Per $1000 of federal EITC	0.073	0.074	0.078	0.056
% impact	8.6%	8.8%	9.9%	7.0%
Extensive margin elasticity	0.36	0.37	0.45	0.32
Observations	50,508	50,508	25,101	25,101
Mean of the dependent variable	0.844	0.844	0.796	0.796
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Appendix Table 8: Difference-in-Difference Estimates of OBRA93 and Parameterized DD Estimates of TRA86, OBRA90 and OBRA93 on ATT Income Above 100% of the Federal Poverty Threshold for Married Couples

Model:	OBRA 93 DD (1991-1998)		Parameterized DD (1984-2013)	
(Year > 1993) * (1+ children)	0.022***	0.005		
	(0.00)	(0.01)		
Simulated EITC ($1,000)			0.079***	0.067***
			(0.01)	(0.02)
Per $1000 of federal EITC	0.073	0.014	0.048	0.038
% impact	8.0%	1.5%	5.3%	4.1%
Observations	60,253	60,253	135,745	135,745
Mean of the dependent variable	0.914	0.914	0.913	0.913
Controls				
Treatment (1+ children)				
Post (year > 1993)				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes married women, ages 24 through 48 with a high school degree or less from the Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

SUPPLEMENTAL RESULTS FOR HOYNES AND PATEL

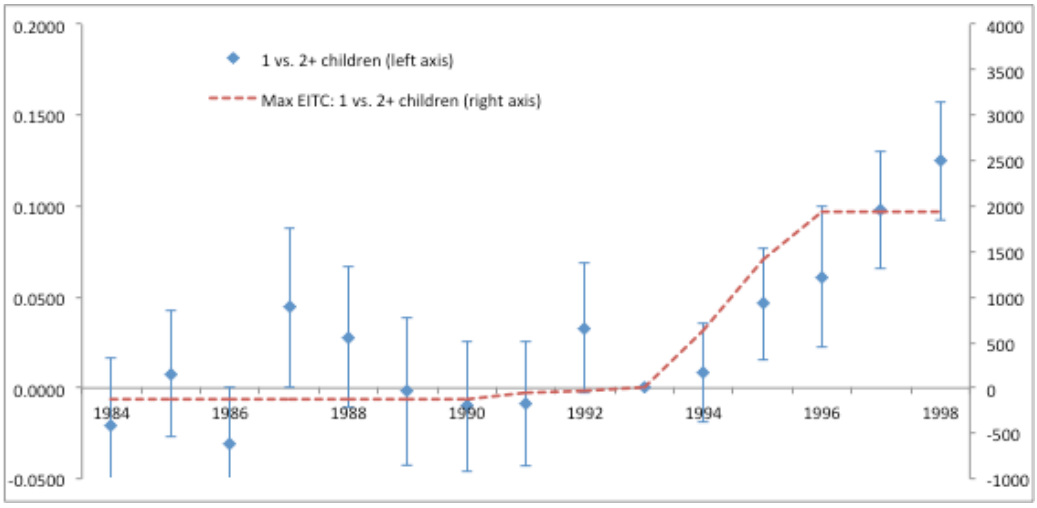
The following pages include additional tables and figures not explicitly cited in the paper. In particular they present difference in difference results and event study for employment.

Supplemental Table 1: Additional Difference in Difference Estimates for Any Work, assessing sensitivity to adding controls

	0 vs. 1+ Children				0 vs 1, 0 vs 2+				1 vs. 2+ Children			
(Year > 1993) * (1+ children)	0.0605	0.0522	0.0599	0.0466								
	(0.006)	(0.007)	(0.010)	(0.009)								
(Year > 1993) * (1 children)					0.0253	0.0273	0.0342	0.0321				
					(0.008)	(0.009)	(0.014)	(0.014)				
(Year > 1993) * (2+ children)					0.0892	0.0727	0.0808	0.0575	0.0616	0.0436	0.0437	0.0236
					(0.008)	(0.010)	(0.010)	(0.010)	(0.011)	(0.012)	(0.014)	(0.015)
Observations	50,508	50,508	50,508	50,508	50,508	50,508	50,508	50,508	25,101	25,101	25,101	25,101
Mean of the dependent variable	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.844	0.796	0.796	0.796	0.796
Controls												
Demographics	X	X	X	X	X	X	X	X	X	X	X	X
# of children indicators	X	X	X	X	X	X	X	X	X	X	X	X
State * year indicators	X	X	X	X	X	X	X	X	X	X	X	X
Simulated tax & transfer benefits		X	X	X		X	X	X		X	X	X
Any AFDC waiver * 1+ children			X	X			X	X				
Any AFDC waiver * 2+ children							X	X			X	X
Unemp rate * 1+ children				X				X				
Unemp rate * 2+ children								X				X

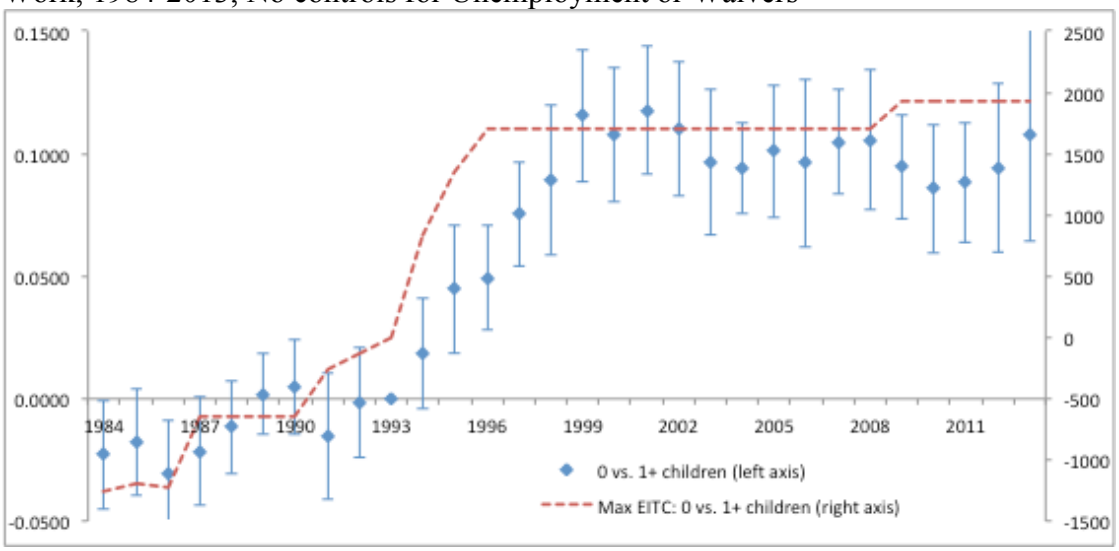
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state.

Supplemental Figure 1: Event Model Estimates of OBRA 93 on Any Work, 1 vs 2+ Children, 1984-1998, No State x year controls for Unemployment or Waivers



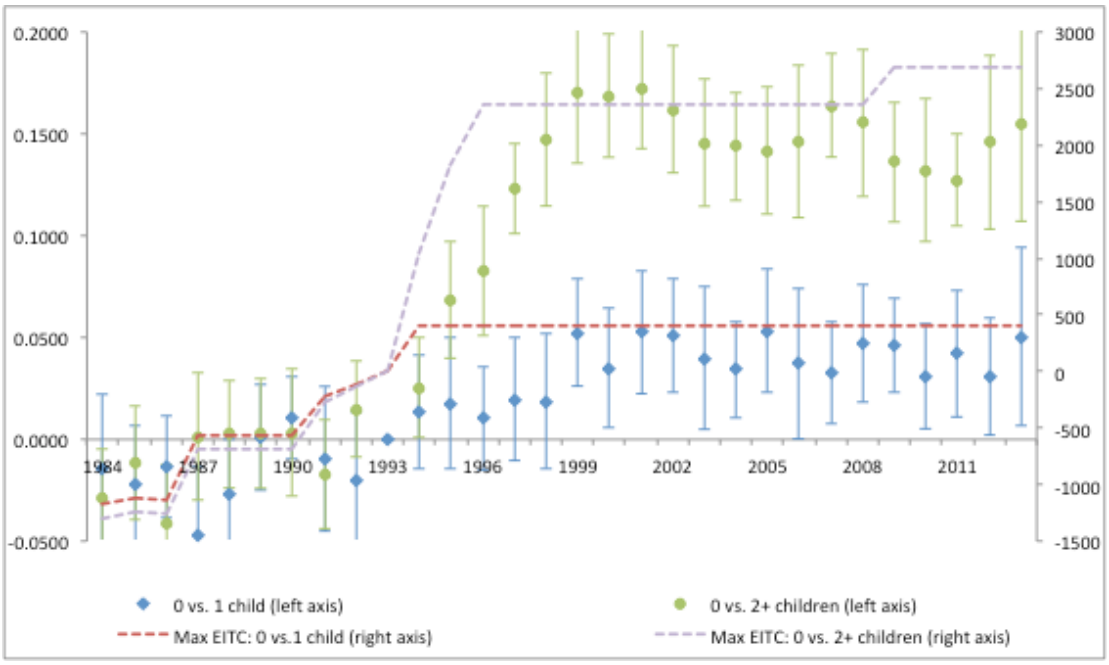
Notes: The sample includes single women with children, ages 24 through 48 with some college education or less from the 1985 through 1999 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Supplemental Figure 2: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 1984-2013, No controls for Unemployment or Waivers



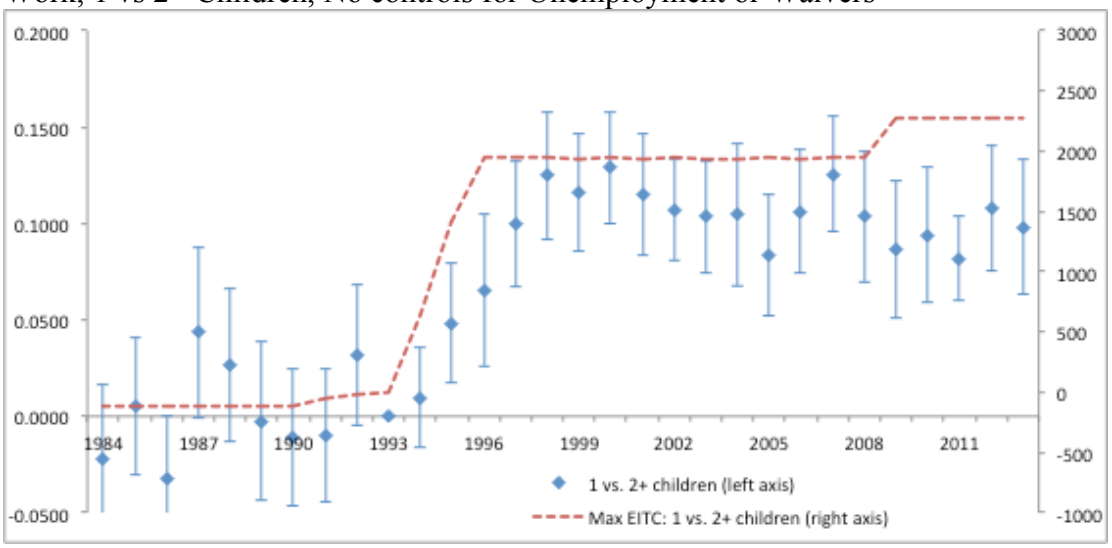
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Supplemental Figure 3: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 2+ Children vs no children and 1 child versus no children, No controls for Unemployment or Waivers



Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

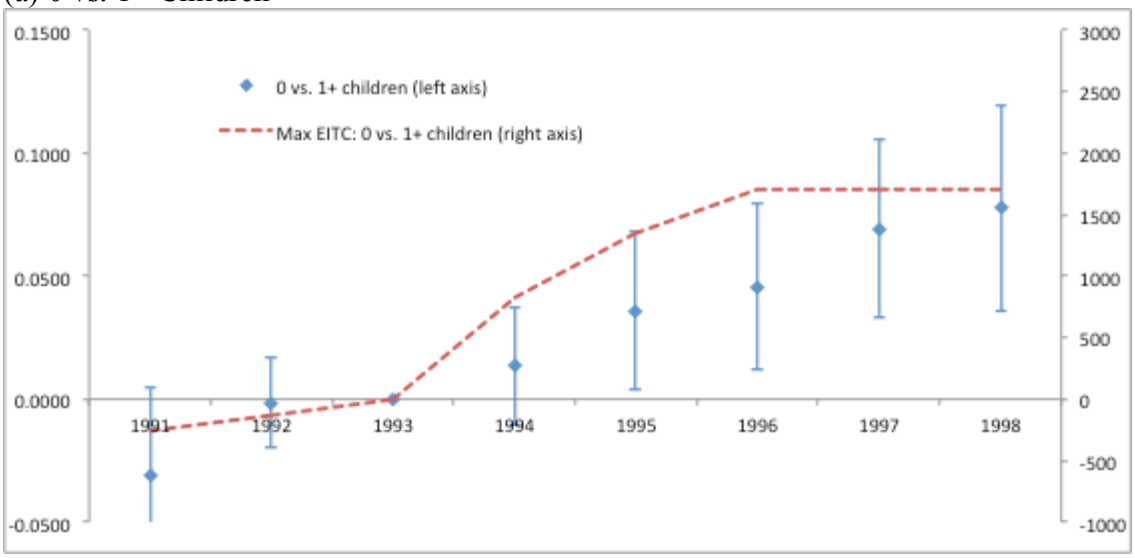
Supplemental Figure 4: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 1 vs 2+ Children, No controls for Unemployment or Waivers



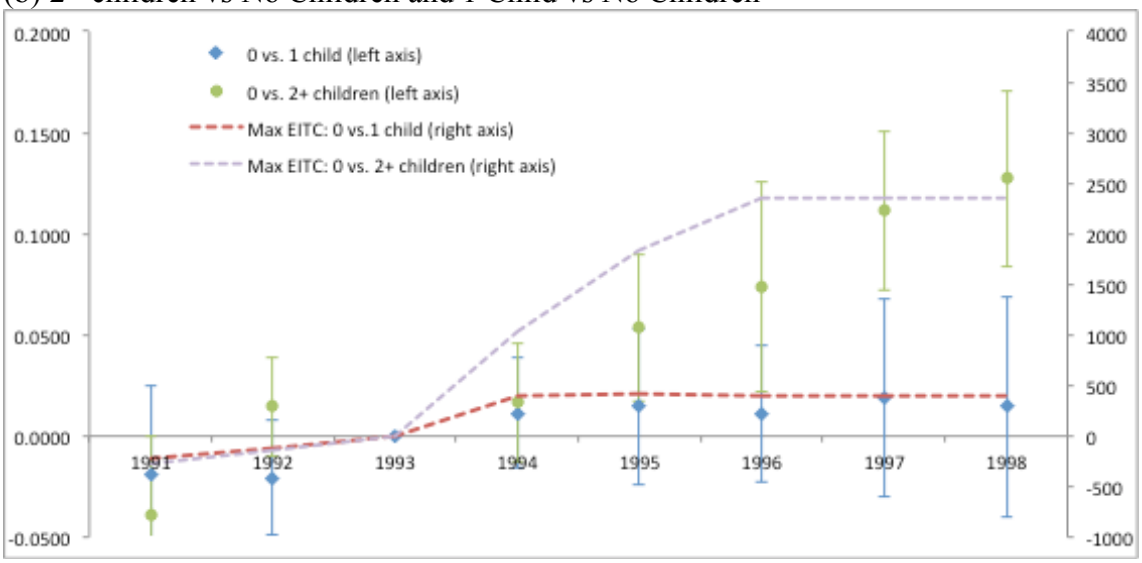
Notes: The sample includes single women with children, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Supplemental Figure 5: Event Time Model Estimates of OBRA 93 on Any Work During the Year, Controls for Unemployment Rate and Waivers

(a) 0 vs. 1+ Children

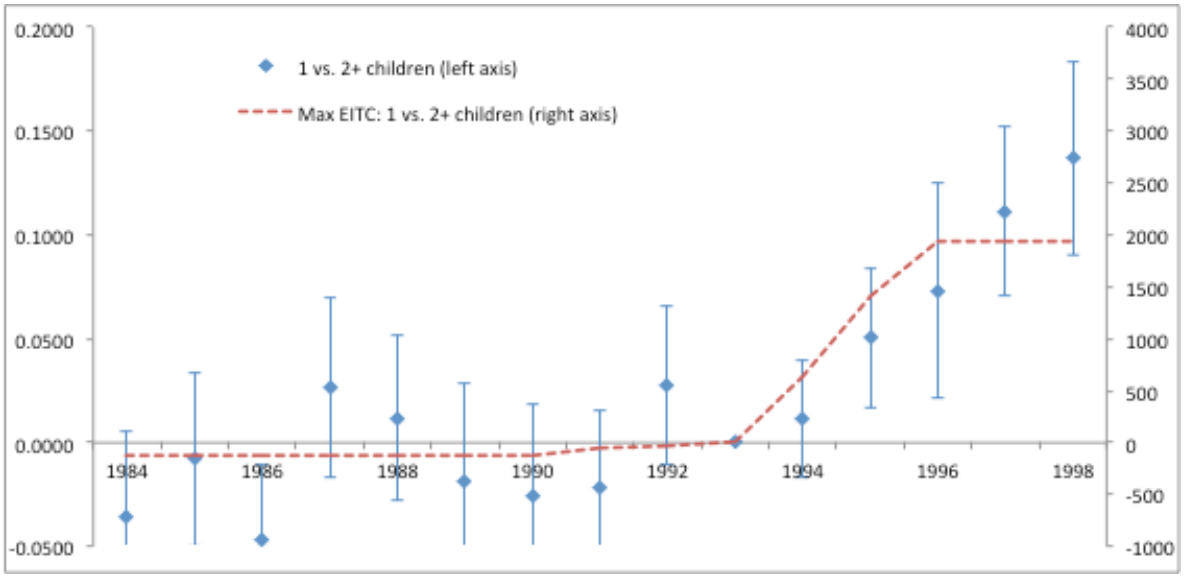


(b) 2+ children vs No Children and 1 Child vs No Children



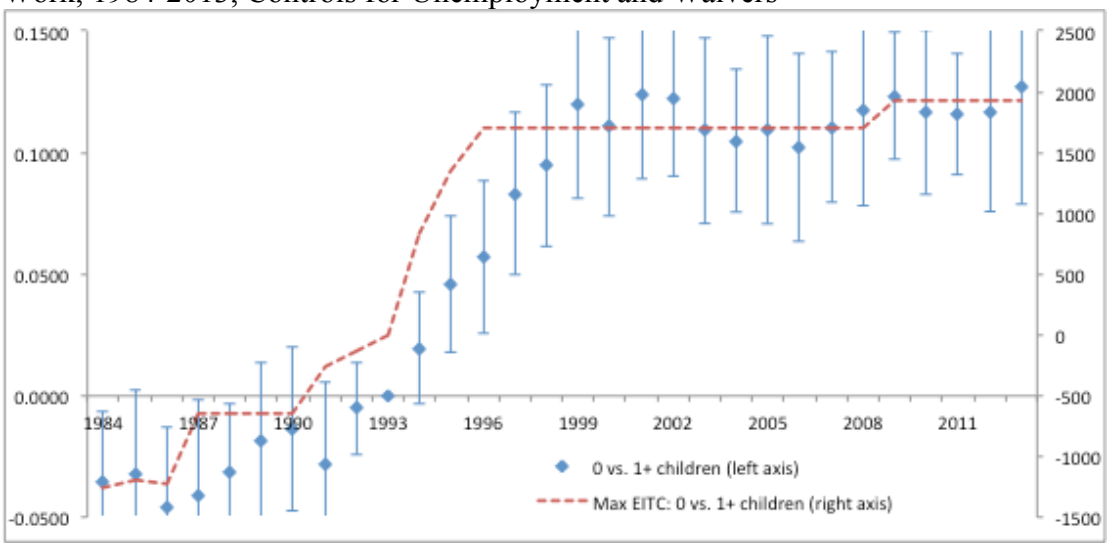
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state. Effects of welfare waiver and unemployment rate are allowed to vary by family size in (b).

Supplemental Figure 6: Event Model Estimates of OBRA 93 on Any Work, 1 vs 2+ Children, 1984-1998, Controls for Unemployment and Waivers



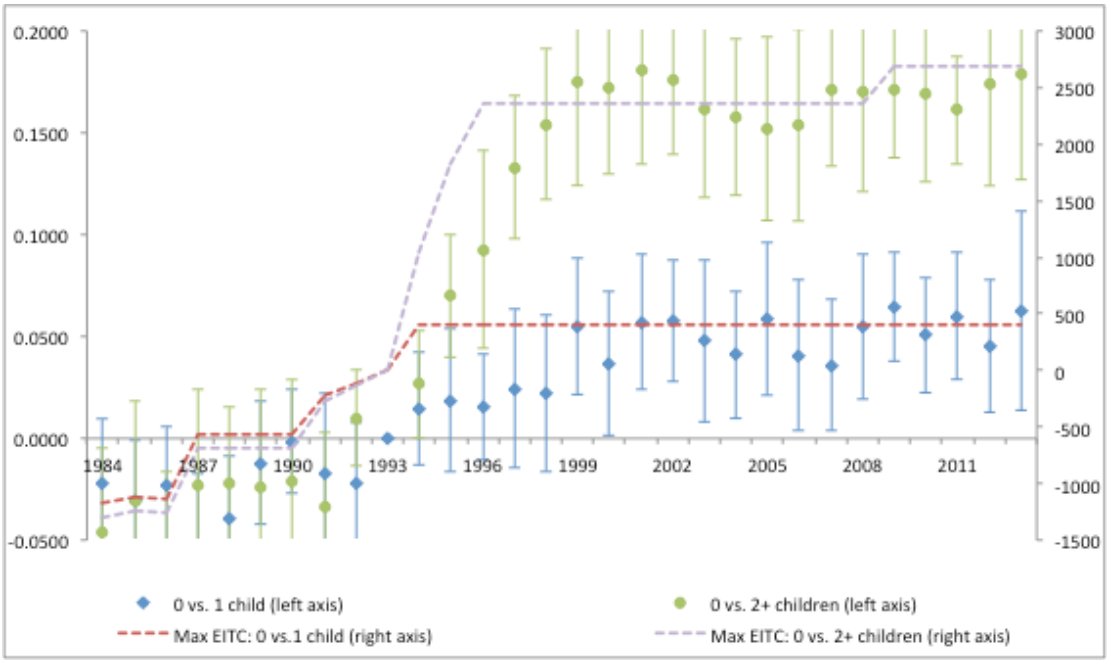
Notes: The sample includes single women with children, ages 24 through 48 with some college education or less from the 1985 through 1999 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Supplemental Figure 7: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 1984-2013, Controls for Unemployment and Waivers



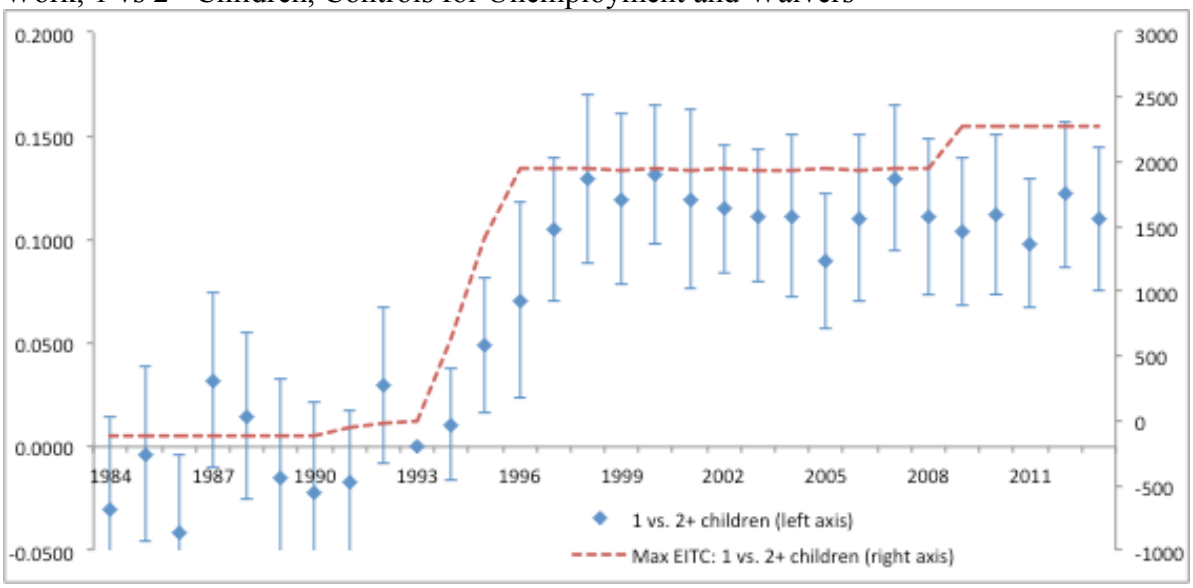
Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.

Supplemental Figure 8: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 2+ Children vs no children and 1 child versus no children, Controls for Unemployment and Waivers



Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state. Effects of welfare waiver and unemployment rate are allowed to vary by family size.

Supplemental Figure 9: Event Model Estimates of TRA86, OBRA90 and OBRA93 on Any Work, 1 vs 2+ Children, Controls for Unemployment and Waivers



Notes: The sample includes single women with children, ages 24 through 48 with some college education or less from the 1985 through 2014 Current Population Survey (March). See equation (2) in text and data appendix for details. 95% confidence intervals clustered on state.