

Income, the Earned Income Tax Credit, and Infant Health

ONLINE APPENDIX

Hilary W. Hoynes
Department of Economics, UC Davis and NBER
hwoynes@ucdavis.edu

Douglas L. Miller
Department of Economics, UC Davis and NBER
dlmiller@ucdavis.edu

David Simon
Department of Economics, UC Davis
desimon@ucdavis.edu

June 2012

This online appendix contains tables and figures referred to in the main text.

Appendix Table 1: Difference-in-Difference Estimates of OBRA93 on Birth Outcomes, Single Women with a High School Education or Less by Race and Ethnicity

	Average Birthweight				Preterm Birth (<37 weeks)			
	White	Black	Non-Hispanic	Hispanic	White	Black	Non-Hispanic	Hispanic
<u>Model: Parity 2+ vs. 1</u>								
Parity2+ * After	4.358** (2.092)	17.89*** (3.105)	10.76*** (2.169)	2.152 (3.953)	0.172** (0.0831)	-0.557*** (0.140)	-0.288** (0.0925)	0.0896 (0.0896)
Mean of the dep. variable	3272.5	3066.4	3175.8	3291.2	11.96	19.08	15.05	12.21
N	21775	13780	26066	14823	21757	13752	26054	14798
<u>Model: Parity 3+ vs. 2</u>								
Parity3+ * After	-1.474 (1.483)	17.41*** (2.251)	9.487*** (2.326)	-2.268 (2.949)	0.177 (0.118)	-0.475** (0.161)	-0.309** (0.123)	0.171 (0.135)
Mean of the dep. variable	3287.8	3067.1	3162.6	3325.1	12.87	20.53	16.87	12.72
N	16247	10273	19611	10951	16236	10254	19602	10933

	Weight for Age < 10th percentile				Apgar < 8			
	White	Black	Non-Hispanic	Hispanic	White	Black	Non-Hispanic	Hispanic
<u>Model: Parity 2+ vs. 1</u>								
Parity2+ * After	-0.201** (0.0969)	-0.873*** (0.0985)	-0.428*** (0.0867)	-0.137 (0.132)	1.579 (1.103)	-0.454** (0.197)	0.125 (0.315)	4.163* (2.447)
Mean of the dep. variable	13.44	17.23	15.64	11.74	3.102	4.500	3.795	2.580
N	21753	13743	26048	14788	21221	13073	25502	14122
<u>Model: Parity 3+ vs. 2</u>								
Parity3+ * After	0.0783 (0.0677)	-0.517*** (0.135)	-0.194** (0.0750)	-0.0876 (0.0614)	-1.434 (0.877)	-0.267 (0.641)	-0.567* (0.322)	-2.031** (0.772)
Mean of the dep. variable	12.49	16.58	15.24	10.49	2.720	4.277	3.597	2.262
N	16233	10250	19599	10926	15834	9746	19187	10425

Notes: Each column in each panel is from a separate DD regression of birth outcome applied to Natality data for effective tax years 1991-1998. Observations are at the year-state-parity-demographic cell level. All models include fixed effects for effective tax year, parity, state, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. Estimates are weighted using the number of births in the cell and are clustered on state. Standard errors are in parentheses. Observations differ across the outcomes due to incomplete data on these outcomes for all state-years (and some missing data on gestation).

Appendix Table 2: Magnitudes in OBRA93 Models, Mean Birth Weight

	All	White	Black
PARITY 2+ vs. PARITY 1			
Treatment Effect	9.948	4.358	17.89
EITC increase (2009\$)	\$521	\$471	\$624
Treatment on Treated per \$1000 (2009\$)	19.09	9.25	28.67
ToTper \$1000 (2009\$), % impact	0.60%	0.28%	0.93%
PARITY 3+ vs. PARITY 2			
Treatment Effect (3+ vs. 2)	6.85	-1.47	17.41
EITC Increase (2009\$) (3+ vs 2)	\$294	\$281	\$304
Treatment on Treated per \$1000 (2009\$)	23.30	-5.23	57.27
ToTper \$1000 (2009\$), % impact	0.73%	-0.16%	1.87%
Mean of the dependent variable	3206	3288	3067

Notes: Each column in each panel provides estimates for a separate DD regression. In each panel, the first row repeats average birth weight parameter estimates from main paper Table 6 or Appendix Table 1. The second row provides the DD estimate on EITC income from the CPS/TAXSIM data. Row 3 is the treatment on the treated estimate of a \$1000 increase in EITC income (row 1 / row 2 * 1000). Row 4 provides the percent TOT impact (row 3 / mean).

Appendix Table 3: Difference-in-Difference Estimates of OBRA93 on Low Birth Weight using Alternative Assumptions about Timing, Single women with a high school education or less

Model	When do I get the money?	Assign treatment based on exposure in:			
		1st trimester	2nd trimester	3rd trimester	3rd tri, labor supply
Assign EITC in 7th month (base case)	Refund-cash, all year			-0.340*** (0.068)	
Assign EITC based on 3rd trimester	Refund-cash, all year			-0.274*** (0.059)	
Assign EITC based on 2nd trimester	Refund-cash, all year		0.354*** (0.067)		
Assign EITC based on 1st trimester	Refund-cash, all year	0.348*** (0.062)			
Horse race all trimesters	Refund-cash, all year	-0.074 (0.240)	-0.619* (0.350)	0.370** (0.161)	
All cash in Feb, based on 3rd trimester	Refund-cash, Feb only			-0.397* (0.220)	
All cash in Feb, horse race all trimesters	Refund-cash, Feb only	0.812*** (0.268)	-0.080 (0.282)	-0.564** (0.245)	
Labor supply model, 3rd trimester	Labor supply/earnings				-0.054 (0.085)
Horse race rebate credit & labor supply	Refund-cash & labor supply			-0.308*** (0.078)	0.080 (0.104)

Notes: Each row is from a separate regression of the percent low birth on the OBRA93 parity 3+ vs. parity 2 design using Natality data for effective tax years 1984-1998. Observations are at the year-state-parity-demographic cell level. All models include fixed effects for effective tax year, parity, state, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. Estimates are weighted using the number of births in the cell and are clustered on state. Standard errors are in parentheses.

Appendix Table 4: Robustness Checks for Difference-in-Difference Estimates of OBRA93 on Low Birth Weight, Single Women with a High school education or less

	Drop Mexican born mothers	Assign timing using gestation	Drop parity 4+ births	Drop obs with weight inconsistent with gestation	Balance on education reporting states	Balance on non-imputed marital status states
<u>Model: parity 2+ vs. 1</u>						
2+ kids * after	-0.389*** (0.0886)	-0.388*** (0.0747)	-0.262** (0.0769)	-0.357*** (0.073)	-0.387*** (0.085)	-0.320** (0.0955)
Mean Dep Var	10.68	10.17	9.558	10.22	10.92	10.80
N	47184	47722	36136	47,506	42,258	41424
<u>Model: parity 3+ vs. 2</u>						
3+kids * after	-0.385*** (0.0824)	-0.376*** (0.0716)	-0.223*** (0.0621)	-0.323*** (0.068)	-0.332** (0.099)	-0.320*** (0.0898)
Mean Dep Var	11.37	10.69	9.696	10.74	11.66	11.50
N	35145	35488	23916	35,326	31,438	30778

Notes: Each column in each panel is from a separate DD regression of low birth weight applied to Natality data for effective tax years 1991-1998. Observations are at the year-state-parity-demographic cell level. All models include fixed effects for effective tax year, parity, state, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. Estimates are weighted using the number of births in the cell and are clustered on state. Standard errors are in parentheses.

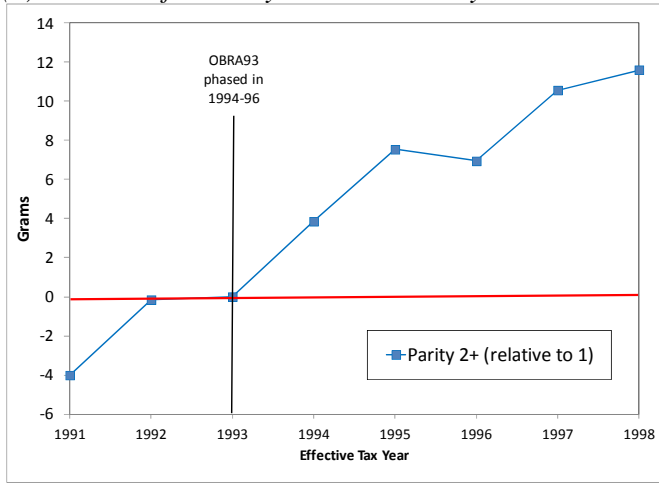
Appendix Table 5: Pairwise Parity Estimates of OBRA93 on Low Birth Weight, Single Women with a High school education or less

	Pairwise Parity Comparisons				
	2 vs. 1	3 vs. 2	4 vs. 3	5 vs. 4	6+ vs. 5
parity 2 * after	-0.175** (0.0713)				
parity 3 * after		-0.223*** (0.0621)			
parity 4 * after			-0.238** (0.0901)		
parity 5 * after				-0.184 (0.174)	
parity 6 * after					0.238 (0.179)
N	24,450	23,916	22,021	19,074	16,654
R-sq	0.6104	0.5798	0.5189	0.4356	0.3869
mean, low birthweight	9.336	9.696	11.09	13.02	15.59
EITC DD treatment	\$373	\$268	\$128	-\$17	-\$16

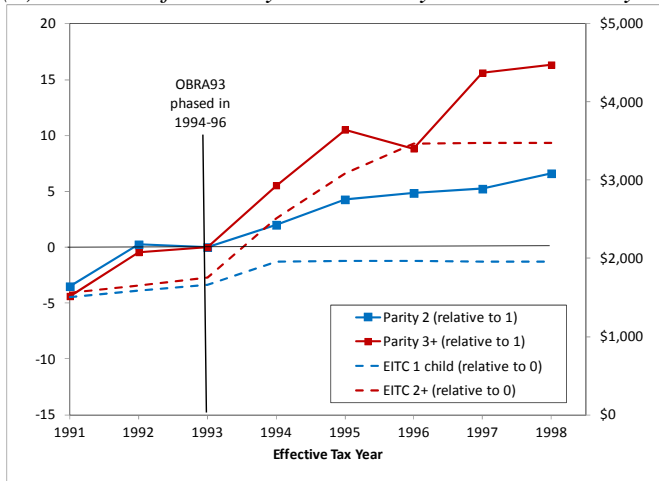
Notes: Each column is from a separate DD regression of low birth weight applied to Natality data for effective tax years 1991-1998. Observations are at the year-state-parity-demographic cell level. All models include fixed effects for effective tax year, parity, state, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. Estimates are weighted using the number of births in the cell and are clustered on state. Standard errors are in parentheses.

Appendix Figure 1: Event Time Estimates of OBRA93 on Mean Birth Weight, Single Women with a High School Education or Less

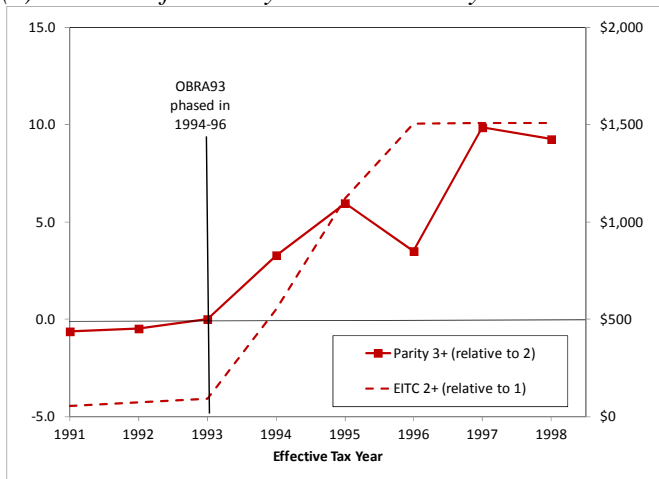
(a) Estimates for Parity 2+ versus Parity 1



(b) Estimates for Parity 2 and Parity 3+ versus Parity 1



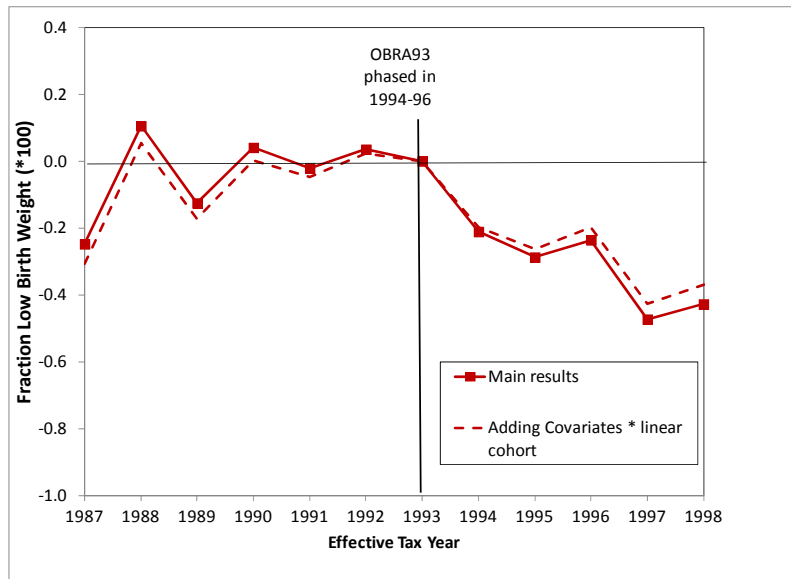
(c) Estimates for Parity 3+ versus Parity 2



Notes: Each figure plots coefficients from an event-study analysis where the coefficients are year dummies interacted with the treatment indicator (e.g. higher order parity relative to lower order parity). The specification includes fixed effects for year, state, parity, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. In panels (b) and (c) the figure provides DD estimates for low birth weight and predicted EITC income. Estimates for EITC income and based on the March CPS and the EITC is calculated using TAXSIM. See text for details.

Appendix Figure 2: Event Time Estimates of OBRA93 on Low Birth Weight, Sensitivity to adding controls for covariates times linear trends, Single Women with a High School Education or Less

Estimates for Parity 2+ versus Parity 1



Notes: The figure plots coefficients from an event-study analysis where the coefficients are year dummies interacted with the treatment indicator (e.g. higher order parity relative to lower order parity). The model includes fixed effects for year, state, parity, demographic group and state-year controls for Medicaid/SCHIP, welfare reform and unemployment rates. The model represented by the dashed line also includes controls for demographic group times linear birth cohort.