ONLINE APPENDIX:
Long-Run Effects of Incentivizing Work After Childbirth

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A Supplemental Tables and Figures

Table A.1: Summary Statistics by Marital Status

	Never Married	Married
Share Non-White	0.638	0.254
	(0.481)	(0.435)
Age at First Birth	23.61	26.44
	(4.393)	(4.574)
HH EITC Eligibility Pre-Birth	0.968	0.490
	(0.175)	(0.500)
Secondary Earner Pre-Birth	–	0.630
	–	(0.483)
HH EITC 0-4 Yrs Post-Birth ($2016, 94 Sched.)	1127.8	522.2
	(1291.0)	(1013.3)
Share High School or Less	0.557	0.358
	(0.497)	(0.479)
Any Earnings Pre-Birth	0.894	0.897
	(0.308)	(0.304)
Mean of Any Earnings Pre-Birth	0.660	0.781
	(0.474)	(0.414)
Mean Earnings if Working ($2016) Pre-Birth	12073.7	24672.2
	(14264.9)	(44866.8)
Unique Women	11291	97288
Observations	282275	2432200

Notes: This table shows summary statistics for our sample of never-married and married mothers. "Secondary earner pre-birth" is an indicator equal to one if the woman earns less than 40% of total household earnings. See Table 1 for information on data and sample construction.

Table A.2: Characteristics of Never-Married Mothers by Early- or Late-Exposure

	All	Late Exposure (88-91)	Early Exposure (93-96)	P-value
A: Pre-Birth Outcomes				
Share Non-White	0.638	0.674	0.609	<0.01
	(0.481)	(0.469)	(0.488)	
Age at First Birth	23.61	23.54	23.67	0.170
	(4.393)	(4.173)	(4.557)	
HH EITC Eligibility Pre-Birth	0.968	0.967	0.969	0.481
	(0.175)	(0.179)	(0.172)	
Share High School or Less	0.557	0.601	0.523	<0.01
	(0.497)	(0.490)	(0.499)	
Any Earnings Pre-Birth	0.894	0.888	0.898	0.151
	(0.308)	(0.315)	(0.303)	
Mean of Any Earnings Pre-Birth	0.660	0.641	0.674	<0.01
	(0.474)	(0.480)	(0.469)	
Mean Earnings if Working ($2016) Pre-Birth	12073.7	11929.7	12181.2	0.478
	(14264.9)	(14153.4)	(14347.0)	
B: Post-Birth Outcomes				
Mean of Any Earnings 0-4 yrs Post-Birth	0.705	0.631	0.763	<0.01
	(0.456)	(0.483)	(0.425)	
Mean of Any Earnings 5-9 yrs Post-Birth	0.812	0.771	0.844	<0.01
	(0.391)	(0.420)	(0.363)	
Mean of Any Earnings 10+ yrs Post-Birth	0.815	0.823	0.808	0.054
	(0.389)	(0.382)	(0.394)	
Mean Earnings ($2016) 0-4 yrs Post-Birth	11656.9	9926.4	13012.6	<0.01
	(16407.3)	(14750.6)	(17477.6)	
Mean Earnings ($2016) 5-9 yrs Post-Birth	18271.2	15584.2	20376.3	<0.01
	(19672.1)	(17474.0)	(20997.2)	
Mean Earnings ($2016) 10+ yrs Post-Birth	23525.4	22685.0	24183.9	<0.01
	(25116.5)	(22473.7)	(26988.8)	
Mean Earnings if Working ($2016) 0-4 yrs Post-Birth	16577.9	15737.1	17126.8	<0.01
	(17400.4)	(15905.6)	(18289.8)	
Mean Earnings if Working ($2016) 5-9 yrs Post-Birth	22715.5	20373.4	24408.4	<0.01
	(19618.0)	(17486.2)	(20862.1)	
Mean Earnings if Working ($2016) 10+ yrs Post-Birth	29558.0	28107.6	30729.7	<0.01
	(25125.8)	(22012.3)	(27327.8)	
Unique Women	11291	4960	6331	11291
Observations	282275	124000	158275	282275

Notes: This table shows summary statistics for our early and late-exposed never-married samples, respectively, for pre-birth outcomes (Panel A) and post-birth outcomes (Panel B). While we include "Share High School or Less" in Panel A along with the other demographic characteristics, we actually observe this outcome after a first birth, which makes it a potential outcome of early exposure. See Table 1 for information on the data and sample construction.

Table A.3: Do Observables Change Differentially Across CPS Surveys for Early-Exposed Mothers? – Never-Married Mothers

	Beta	P-value
Share Non-White	0.002	0.211
Age at First Birth	0.019	0.185
HH EITC Eligibility Pre-Birth	-0.000	0.780
Share High School or Less	0.000	0.818
Any Earnings Pre-Birth	0.001	0.415
Mean of Any Earnings Pre-Birth	0.002	0.187
Years of Experience Pre-Birth	0.002	0.871
Mean Earnings ($2016) Pre-Birth	-3.510	0.933
Mean Earnings if Working ($2016) Pre-Birth	-4.576	0.920
Mean Earnings if Working ($2016) 0-4 yrs Post-Birth	-51.707	0.150
Mean Earnings if Working ($2016) 5-9 yrs Post-Birth	-1.170	0.984
Mean Earnings if Working ($2016) 10+ yrs Post-Birth	0.366	0.996
Observations	11291	11291

Notes: Each row of this table shows the results from a separate regression of an observable characteristic (column 1) on a linear trend in "survey years from first birth" (CPS year minus year of first birth) and the interaction of "survey years from first birth" and early-exposure. Columns 2 and 3 shows the coefficient on the interaction and its p-value, which indicate whether the characteristics of early-exposed mothers evolve differently than late-exposed mothers over time. See Table 1 for information on standard errors, data and sample construction.

Table A.4: Effect of Early Work Incentives on Short-Run Employment – By Marital Status and Pre-Birth EITC Eligibility

	Never Married			Married		
	All	Eligible	Non Eligible	All	Eligible	Non Eligible
PostBirth * EarlyExp	0.037***	0.039***	-0.017	0.003	0.002	0.002
	(0.009)	(0.009)	(0.017)	(0.003)	(0.005)	(0.004)
Mean Y	0.682	0.673	0.982	0.753	0.636	0.866
Observations	112910	109320	3590	972880	476700	496180

Notes: This table shows the results from regressions comparing the employment of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child, by pre-birth EITC eligibility. We present the DD using never-married mothers (columns 1–3) as well as the DD using married mothers (columns 4–6). See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.5: Effect of Early Work Incentives on Short-Run Self-Employment and Bunching

	Self-Emp. Earnings >0		Bunching ($1500 bins)		Bunching ($2500 bins)	
	Never Married	DDD	Never Married	DDD	Never Married	DDD
PostBirth * EarlyExp	0.010***		0.015***		0.020***	
	(0.003)		(0.004)		(0.005)	
PostBirth * EarlyExp * NM		0.006*		0.011**		0.014***
		(0.003)		(0.004)		(0.005)
Mean Y	0.013	0.034	0.047	0.043	0.077	0.071
Observations	112910	1085790	112910	1085790	112910	1085790

Notes: This table shows the results from regressions comparing the labor market outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child. For each outcome we present both the DD using never-married mothers as well as the DDD in which we we use married mothers as an additional comparison group. Columns 1–2 present results where the outcome is an indicator for positive self-employment earnings, while columns 3–6 present results where the outcome is an indicator for bunching at the first EITC kink, which is defined as having earnings within $1,500 (columns 3–4) or $2,500 (column 5–6) of the first EITC kink. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.6: Effect of Early Work Incentives on Short-Run Earnings

	Earnings ($2016)		Wage Earnings ($2016)	
	0-3	0-4	0-3	0-4
A: Never Married				
PostBirth * EarlyExp	833.920***	1120.734***	746.304***	1011.188***
	(223.545)	(244.138)	(237.290)	(260.694)
Mean Y	9251.446	9820.838	9144.424	9698.245
Individuals	101619	112910	101619	112910
B: DDD				
PostBirth * EarlyExp * NM	463.846	657.175**	403.693	590.697*
	(325.425)	(326.522)	(340.478)	(343.140)
Mean Y	18087.091	18272.975	17739.758	17900.830
Individuals	977211	1085790	977211	1085790

Notes: This table shows the results from regressions comparing earnings (in 2016 dollars) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child. For each outcome we present both the DD using never-married mothers as well as the DDD in which we use married mothers as an additional comparison group. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.7: Testing Alternative Explanations for Short-Run Employment Effects – Triple-Difference Estimates

	By Change in U-Rate		Control for Dynamics		Up to 1996	
	High	Low	U-Rate	Ref+Waivs	All	No Waiver
PostBirth * EarlyExp * NM	0.028**	0.031**	0.032***	0.028***		
	(0.010)	(0.013)	(0.008)	(0.008)		
EarlyExp * NM * 1 Yr. From Birth					0.020	0.013
					(0.014)	(0.017)
EarlyExp * NM * 2 Yr. From Birth					0.039***	0.053**
					(0.015)	(0.027)
EarlyExp * NM * 3 Yr. From Birth					0.050***	0.056
					(0.017)	(0.040)
Mean Y	0.759	0.732	0.746	0.746	0.745	0.739
Chg. U-Rate: 94-00 - 88-93	-0.018	-0.006	-	-	-	-
Observations	548800	536990	1085790	1085790	946146	232607

Notes: This table shows the results from regressions comparing the employment of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), across never-married and married mothers. Columns (1) and (2) compare early- and late-exposed first births in states that experienced above-median or below-median change in the unemployment rate between 1994-2000 and 1988-1993, respectively. Columns (3) and (4) present estimates where we add to our baseline specification interactions between the age of one's first child and the unemployment rate (column 3) or between the age of one's first child and our indicators for welfare reform and waivers (column 4). Columns (5) and (6) present the event study estimates for years 1–3 after a first birth when we restrict the sample to the years prior to 1996 (column 5) and to states that didn't pass a waiver up to 1996 (column 6). See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.8: Effect of Early Work Incentives on Short-Run Earnings – By the Size of the Economic Boom

	> Med. Decline U-Rate		< Med. Decline U-Rate	
	NM	DDD	NM	DDD
PostBirth * EarlyExp	1049.840***		951.293**	
	(302.348)		(350.866)	
PostBirth * EarlyExp * NM		502.234		779.074*
		(440.040)		(414.426)
Mean Y	9579.092	17925.061	10057.406	18628.373
Chg. U-Rate: 94-00 - 88-93	-0.018	-0.018	-0.006	-0.006
Individuals	55860	548800	57050	536990

Notes: This table shows the results from DD regressions comparing the earnings (in 2016 dollars) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child. Columns (1) and (2) examine impacts in states that had an above-median change in unemployment rates between 1994-2000 and 1988-1993 (i.e a larger boom); while Columns (3) and (4) examine impacts in states that had a below-median change in unemployment rates (i.e a smaller boom). See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.9: Effect of Early Work Incentives on Short-Run Employment – Heterogeneity by State-Level Child Care Costs

	Base	Cost	Cost if >0	Cost=0
A: Never Married				
PostBirth * EarlyExp	0.038***	0.039***	0.031***	0.034***
	(0.010)	(0.010)	(0.010)	(0.010)
PostBirth * EarlyExp * Child Care		0.006	0.022**	0.024**
		(0.016)	(0.008)	(0.009)
PostBirth * Child Care		-0.026	-0.031***	-0.036**
		(0.021)	(0.010)	(0.013)
Mean Y	0.677	0.677	0.677	0.677
Observations	102980	102980	102980	102980
B: DDD				
PostBirth * EarlyExp * NM	0.037***	0.037***	0.030***	0.033***
	(0.009)	(0.009)	(0.009)	(0.009)
PostBirth * EarlyExp * NM * Child Care		0.006	0.021**	0.023**
		(0.016)	(0.008)	(0.009)
PostBirth * NM * Child Care		-0.026	-0.031***	-0.036**
		(0.021)	(0.010)	(0.013)
Mean Y	0.736	0.736	0.736	0.736
Observations	943240	943240	943240	943240

Notes: This table shows the results from regressions comparing the employment of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child. Column 1 shows our baseline estimate. Columns (2)-(4) show interactions between early exposure and three measures of child care costs in the state: (i) the average cost per child; (ii) the average cost per child conditional on having positive costs; and (iii) the share of mothers with zero child care costs. Panel A shows the DD using never-married mothers. Panel B shows the DDD in which we use married mothers as an additional comparison group. See Table 1 for information on control variables, standard errors, data and sample construction. We construct data on child care costs from Wave 3 of the 1990, 1991, and 1993 SIPP panels, and Wave 6 of the 1992 SIPP panel. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.10: Effect of Early Work Incentives on Short-Run Employment – Heterogeneity by the Presence and Generosity of a State EITC Supplement

	(1)	(2)	(3)	(4)
PostBirth * EarlyExp	0.039***	0.033***	0.038***	0.035***
	(0.009)	(0.009)	(0.009)	(0.009)
PostBirth * State EITC	-0.015	-0.054***		
	(0.009)	(0.011)		
PostBirth * State EITC * EarlyExp		0.053***		
		(0.012)		
PostBirth * State EITC (%)			-0.007	-0.014***
			(0.005)	(0.004)
PostBirth * State EITC (%) * EarlyExp				0.013**
				(0.006)
Mean Y	0.682	0.682	0.682	0.682
Observations	112910	112910	112910	112910

Notes: This table shows the results from DD regressions comparing the employment of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991) in the first 5 years since the birth of a first child. Columns (1) and (2) show interactions between early exposure and whether there is any state EITC supplement available in the current year; while columns (3) and (4) show interactions between early exposure and whether the size (%) of the state EITC supplement available in the current year. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Table A.11: Long-Run Effects on Wage Earnings and Self-Employment Earnings

	Wage Earnings		Pos. Self-Emp.		Self Emp Earnings	
	NM	DDD	NM	DDD	NM	DDD
5-9 Yrs From Birth * EarlyExp	3390.469***		0.019***		265.416***	
	(372.353)		(0.005)		(81.426)	
10+ Yrs From Birth * EarlyExp	1053.696**		0.013***		152.367*	
	(445.639)		(0.004)		(78.356)	
5-9 Yrs From Birth * EarlyExp * NM		2467.511***		0.014***		150.071
		(515.123)		(0.005)		(100.623)
10+ Yrs From Birth * EarlyExp * NM		1352.872**		0.004		39.854
		(566.332)		(0.005)		(95.049)
Mean Y	16539.998	22846.020	0.045	0.061	460.053	766.652
Individuals	282275	2714475	282275	2714475	282275	2714475

Notes: This table shows the results from regressions comparing wage earnings ($2016, columns 1–2), positive self-employment earnings (columns 3–4), self-employment earnings ($2016, columns 5–6) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 5–9 and 10+ years since first birth. The odd columns show DD regressions using never-married (NM) mothers. The even columns show DDD regressions that use married mothers as an additional comparison group. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.12: Long-Run Effects on Alternative Measures of Earnings

	Earnings, if Positive		Log Earnings		Winsorized	
	NM	DDD	NM	DDD	NM	DDD
5-9 Yrs From Birth * EarlyExp	3648.069***		0.261***		3542.770***	
	(355.019)		(0.030)		(360.322)	
10+ Yrs From Birth * EarlyExp	1980.859***		0.076**		1025.886**	
	(421.074)		(0.030)		(406.615)	
5-9 Yrs From Birth * EarlyExp * NM		1515.576**		0.165***		2510.213***
		(580.168)		(0.034)		(451.650)
10+ Yrs From Birth * EarlyExp * NM		1190.222*		0.050		1201.351**
		(683.396)		(0.034)		(478.678)
Mean Y	21937.658	30705.208	9.399	9.750	16915.479	22971.402
Individuals	282275	2714475	282275	2714475	282275	2714475

Notes: This table shows the results from regressions comparing the earnings of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 5–9 and 10+ years since first birth. "Earnings, if Positive" (columns 1–2) is missing for all individuals that have zero earnings. "Winsorized" earnings (columns 5–6) have been top-coded at $175,000 ($2016), which is the top 1% of married mothers' earnings. DD regressions using never-married (NM) mothers are shown in the odd columns, while the DDD regressions that use married mothers as an additional comparison are shown in the even columns. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.13: Effect of Early Work Incentives on Hours and Weeks of Work – CPS Responses

	Level (including 0's)			Cumulative		
	Weekly Hours	Annual Weeks	Hours× Weeks	Weekly Hours	Annual Weeks	Hours × Weeks
A: Never Married						
0-4 Yrs From Birth * EarlyExp	3.074*	4.191**	145.0*	8.915*	12.208**	428.1**
	(1.700)	(1.830)	(72.9)	(4.633)	(5.204)	(210.0)
5-9 Yrs From Birth * EarlyExp	4.533***	1.039	84.0	33.494***	26.861**	1245.1***
	(1.146)	(1.218)	(60.8)	(8.905)	(10.212)	(442.3)
10+ Yrs From Birth * EarlyExp	-0.484	0.127	22.4	33.360*	22.578	1125.0
	(1.493)	(1.303)	(74.8)	(18.217)	(17.443)	(905.1)
Scaled β 0-4				0.255	0.305	0.306
Scaled β 5-9				0.957	0.672	0.889
Scaled β 10+				0.953	0.564	0.804
Observations	9907	10020	9921	9907	10020	9921
B: Add Married Comparison						
0-4 Yrs From Birth * EarlyExp * NM	2.161	3.137	32.0	7.938***	12.882***	283.7**
	(1.748)	(1.907)	(75.3)	(2.598)	(4.083)	(135.8)
5-9 Yrs From Birth * EarlyExp * NM	3.324***	1.264	107.1	27.294***	36.054***	1192.2***
	(1.239)	(1.408)	(64.6)	(4.508)	(7.545)	(244.5)
10+ Yrs From Birth * EarlyExp * NM	0.277	0.528	30.9	28.455***	31.706***	944.8**
	(1.545)	(1.293)	(75.4)	(7.004)	(8.727)	(355.1)
Scaled β 0-4				0.227	0.322	0.203
Scaled β 5-9				0.780	0.901	0.852
Scaled β 10+				0.813	0.793	0.675
Observations	94414	98077	96918	94414	98077	96918

Notes: This table shows the results from regressions comparing labor market outcomes between mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 0–4, 5–9 and 10+ years since first birth. Panel A shows a single-difference using never-married mothers. Panel B shows the DD estimates in which we use married mothers as an additional comparison group. The outcomes are number of hours worked per week (column 1), number of weeks worked last year (column 2), and hours times weeks (column 3), as well as the cumulative sums of each these (columns 4–6). For interpretation, we calculate a "scaled β" for the short-run, medium-run, and long-run, shown at the bottom of each panel, by dividing the cumulative total for each of these periods by the number of hours in a full-time, full-year of work (i.e., 35 hours × 40 weeks). The scaled β is thus the additional years of full-time, full-year work accrued by early-exposed mothers. See Table 4 for information on control variables, and Table 1 for information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.14: Effect of Early Work Incentives on Completed Fertility – CPS Responses

	Number of Kids		2+ Kids		3+ Kids		Yrs b/w 1 and 2	
	NM	+ Married	NM	+ Married	NM	+ Married	NM	+ Married
EarlyExp	0.008		-0.005		0.005		-0.288	
	(0.068)		(0.044)		(0.035)		(0.414)	
EarlyExp * NM		0.010		0.012		-0.006		-0.117
		(0.070)		(0.045)		(0.036)		(0.439)
Mean Y	1.834	2.222	0.537	0.771	0.207	0.317	4.313	3.619
Observations	3638	45392	3638	45392	3638	45392	1953	34981

Notes: This table shows the results from regressions comparing completed fertility between mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991). The odd columns show estimates from a single difference using never-married mothers. The even columns show the DD estimates in which we use married mothers as an additional comparison group. The outcomes are total number of children in the household (columns 1–2), an indicator for having at least 2 children (columns 3–4), having at least three children (columns 5–6), and the number of years between one's first and second child (columns 7–8). We restrict the sample to mothers interviewed in the CPS between the ages of 36 to 44, who are more likely to have completed their childbearing. See Table 4 for information on control variables, and Table 1 for additional information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.15: Effect of Early Work Incentives on Short-Run Employment – Using Future Mothers for Comparison

	Baseline		0-3 Yrs Post			
	Never Married	DDD	Never Married	DDD	No Kids	DDD
PostBirth * EarlyExp	0.037***		0.032***		0.010	
	(0.009)		(0.009)		(0.008)	
PostBirth * EarlyExp * NM		0.034***		0.028***		
		(0.008)		(0.008)		
PostBirth * EarlyExp * Kids						0.026**
						(0.012)
Never Married Moms	Yes	Yes	Yes	Yes	No	Yes
Married Moms	No	Yes	No	Yes	No	No
Never Married Future Moms	No	No	No	No	Yes	Yes
Observations	112910	482120	101619	433908	78828	146574

Notes: This table shows the results from regressions comparing short-run (0-3 years after birth) employment of "mothers" exposed to the 1993 EITC reform early (first "birth": 1993–1996) and late (first "birth": 1988–1991), across never-married mothers and future mothers with placebo births. Column (1) and (2) present our baseline DD and DDD estimates. Columns (3) and (4) present results limit the sample to up to 3 years after birth. Columns (5) and (6) limit the sample to up to 3 years after birth and use future mothers as a comparison group limiting up. Future mothers are assigned a placebo year of first birth equal to her true year of childbirth minus 4. See Table 1 for information on control variables, standard errors, and data. Sample: women whose child was born in 1988–1991 or 1993–1996 ("actual mothers") or between 1992–1995 or 1997-2000 ("future mothers"), and who were at least 19 at first birth and less than 50 years old at CPS interview, were never married at the time of the CPS interview. *Years:* We include data from 5 years prior to a first birth up to the 4^{th} year after a first birth.

Table A.16: Effect of Early Work Incentives on Long-Run Earnings — Using Childless Women for Comparison

	DD			DDD	
	NM Moms	Childless	NM Childless	All	NM
5-9 Yrs From Birth * EarlyExp	3656***	64	-1293		
	(366)	(785)	(2058)		
10+ Yrs From Birth * EarlyExp	1206***	-1053	-296		
	(444)	(923)	(990)		
5-9 Yrs From Birth * EarlyExp * Mom				2964***	4005**
				(806)	(1989)
10+ Yrs From Birth * EarlyExp * Mom				1922**	1015
				(945)	(1029)
Mean Y	17000	30652	34085	26519	24103
Observations	282275	649875	200750	932150	483025

Notes: This table shows the results from regressions comparing short-run earnings (in 2016 dollars) of "mothers" exposed to the 1993 EITC reform early (first "birth": 1993–1996) and late (first "birth": 1988–1991), across never-married and childless women with placebo births, 5–9 and 10+ years since a first "birth." Column (1) presents our baseline DD estimates for never-married mothers. Columns (2) and (3) present the DD estimates using for all childless women and never-married childless women. Columns (4) and (5) present the DDD using all childless women or never-married childless women as comparison groups. Childless women are assigned a placebo year of first birth by taking a draw from the distribution of years of birth for never-married mothers who have the same year of birth and level of education as a given childless woman. See Table 1 for information on control variables, standard errors, and data. Sample: never-married women who were less than 50 years old at the time of the CPS interview, and whose child was born in 1988–1991 or 1993–1996 ("actual mothers"), or women between the ages of 40 to 45 at the time of the CPS interview without any children ("childless mothers"). *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.17: Effect of Early Work Incentives on Long-Run Earnings – Sensitivity to Controls for Unemployment and Welfare

	Base		UR Dynamics		(Ref+Waivs)*Dynamics	
	NM	DDD	NM	DDD	NM	DDD
5-9 Yrs From Birth * EarlyExp.	3655.885***		3707.143***		3441.965***	
	(362.636)		(379.546)		(418.293)	
10+ Yrs From Birth * EarlyExp	1206.063***		1184.553***		1070.210**	
	(444.053)		(426.525)		(470.978)	
5-9 Yrs From Birth * EarlyExp * NM		2617.581***		2532.927***		2338.119***
		(526.602)		(515.671)		(523.906)
10+ Yrs From Birth * EarlyExp * NM		1392.726**		1340.217**		1158.918*
		(587.335)		(569.402)		(612.296)
Mean Y	17000.050	23612.672	17000.050	23612.672	17000.050	23612.672
Observations	282275	2714475	282275	2714475	282275	2714475

Notes: This table shows the results from regressions comparing earnings (in 2016 dollars) of never-married mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 5–9 and 10+ years from first birth. The odd columns show the DD using never-married mothers. The even columns show the DDD in which we use married mothers as an additional comparison group. Columns 1–2 present our baseline results. Columns 3–4 show the estimates when we add to our baseline specification interactions between the age of one's first child and the unemployment rate. Columns 5–6 show the estimates when we add to our baseline specification interactions between the age of one's first child and our indicators for welfare reform and waivers. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.18: Effect of Early Work Incentives on Labor Market Outcomes – Sensitivity to Inverse P-Score Reweighting

	Employed (Earnings > 0)		Earnings ($2016)	
	Never Married	DDD	Never Married	DDD
0-4 Yrs From Birth * EarlyExp	0.054***		1119.915***	
	(0.010)		(292.660)	
5-9 Yrs From Birth * EarlyExp	0.045***		3705.595***	
	(0.010)		(365.233)	
10+ Yrs From Birth * EarlyExp	-0.011		1092.091**	
	(0.011)		(441.579)	
0-4 Yrs From Birth * EarlyExp * NM		0.040***		536.620
		(0.009)		(326.863)
5-9 Yrs From Birth * EarlyExp * NM		0.048***		2326.752***
		(0.010)		(526.485)
10+ Yrs From Birth * EarlyExp * NM		0.003		1100.900*
		(0.011)		(591.831)
Observations	282275	2714475	282275	2714475

Notes: This table shows the results from regressions comparing the employment (columns 1–2) and earnings (columns 3–4) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 0–4, 5–9 and 10+ years from first birth. The odd columns show the DD using never-married mothers. The even columns show the DDD in which we use married mothers as an additional comparison group. All regressions are reweighted using inverse p-scores so that late and early-exposed mothers are balanced on pre-birth characteristics. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Sensitivity to Alternative Specifications

	Base		Add AFB*YSB		Add Ind FE		Sample: Heads		Sample: Eligibles	
	NM	DDD	NM	DDD	NM	DDD	NM	DDD	NM	DDD
A: Short-Run Employment										
PostBirth * EarlyExp	0.037***		0.036***.		0.031***		0.042***		0.039***	
	(0.009)		(0.009)		(0.009)		(0.009)		(0.009)	
PostBirth * EarlyExp * NM		0.034***		0.033***		0.027***		0.039***		0.038***
		(0.008)		(0.008)		(0.008)		(0.008)		(0.009)
Mean Y	0.682	0.746	0.682	0.746	0.682	0.746	0.688	0.751	0.673	0.643
Observations	112910	1085790	112910	1085790	112910	1085790	89220	1039940	109320	586020
B: Long-Run Earnings										
5-9 Yrs From Birth * EarlyExp	3656***		3693***		3612***		3660***		3670***	
	(362.6)		(366.11)		(349.6)		(377.4)		(357.4)	
10+ Yrs From Birth * EarlyExp	1206***		1259***		1177***.		1491***		1232***	
	(444.1)		(446.2)		(429.6)		(479.7)		(411.4)	
5-9 Yrs From Birth * EarlyExp * NM		2618***.		2422***.		2574***.		2648***		2238***
		(526.6)		(533.2)		(515.3)		(520.9)		(469.7)
10+ Yrs From Birth * EarlyExp * NM		1393**		1170*		1341**		1695***		1303**
		(587.3)		(605.0)		(576.1)		(597.6)		(536.5)
Mean Y	17000	23613	17000	23613	17000	23613	17259	23936	15736	15826
Observations	282275	2714475	282275	2714475	282275	2714475	223050	2599850	245950	1465050

Notes: This table shows the sensitivity of our results comparing the labor market outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991). Panel A shows the results for employment 0-4 years from first birth. Panel B shows the results for earnings ($2016) 5-9 and 10+ years from first birth. The odd columns show the DD using never-married mothers. The even columns show the DDD in which we use married mothers as an additional comparison group. Columns 1–2 show our baseline results. To the baseline controls, we add age-at-birth by years-since-birth fixed effects (columns 3–4) and individual fixed effects (columns 5–6). Columns 7–10 use our baseline controls, but restrict the sample to heads of household (columns 7–8) or women whose income in the years prior to childbirth made them eligible for the EITC (columns 9–10). See Table 1 for information on our baseline control variables, standard errors, data and baseline sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} (20^{th}) year after a first birth in Panel A (B).

Table A.20: Effect of Early Work Incentives on Having Earnings or Experience in the Top 75%, 50%, or 25%

	Top 75 Percent		Above Median		Top 25 Percent	
	NM	DDD	NM	DDD	NM	DDD
A: Earnings						
PostBirth * EarlyExp * 10+ Yrs From Birth	-0.007		0.007		0.019***	
	(0.012)		(0.010)		(0.006)	
PostBirth * EarlyExp * 10+ Yrs From Birth * NM		0.019		0.016		0.017**
		(0.012)		(0.011)		(0.008)
Mean Y	0.724	0.738	0.418	0.500	0.145	0.250
Individuals	282275	2714475	282275	2714475	282275	2714475
B: Experience						
PostBirth * EarlyExp * 10+ Yrs From Birth 0.052***		0.028***		-0.018***		
(0.008)		(0.006)		(0.005)		
PostBirth * EarlyExp * 10+ Yrs From Birth * NM		0.028***		0.011		0.005
		(0.008)		(0.007)		(0.005)
Mean Y	0.582	0.719	0.251	0.470	0.093	0.214
Individuals	282275	2714475	282275	2714475	282275	2714475

Notes: This table shows the results from regressions comparing the outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 10+ years from first birth. The outcomes are indicators for being at or above a threshold in the earnings (Panel A) or experience (Panel B) distributions. The thresholds are: top 75% (columns 1-2), top 50% (columns 3–4), or top 25% (columns 5–6). The distributions are defined separately for each year since first birth and include both married and never-married mothers. The odd columns show the DD using never-married mothers. The even columns show the DDD in which we use married mothers as an additional comparison group. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.21: Effect of Early Work Incentives on Jointly Having "High Earnings" (Top 25%) and "High Experience" (Work 3 Yrs. After a First Birth)

	Pr(High Earn + High Exp)	Pr(High Earn + Low Exp)	Pr(Low Earn + High Exp)	Pr(Low Earn + Low Exp)
A: Never-Married				
10+ Yrs From Birth * EarlyExp	0.028***	-0.009***	0.108***	-0.127***
	(0.006)	(0.003)	(0.016)	(0.015)
Mean Y	0.125	0.021	0.545	0.310
Observations	282275	282275	282275	282275
B: DDD				
10+ Yrs From Birth * EarlyExp * NM	0.020**	-0.003	0.075***	-0.092***
	(0.008)	(0.004)	(0.016)	(0.014)
Mean Y	0.230	0.020	0.472	0.278
Observations	2714475	2714475	2714475	2714475

Notes: This table shows the results from regressions comparing outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 10+ years from first birth. The outcomes are indicators for having "high earnings" (top 25%) or "low earnings" (bottom 75%) crossed with indicators for having "high experience" (having worked in each of the three years after a first birth) or "low experience" (not having worked in each of the three years after a first birth). We show estimates for having "high experience and high earnings" (column 1), having high earnings and low experience (column 2), "low earnings and high experience" (column 3), and "low earnings and low experience" (column 4). Panel A presents the DD using never-married mothers. Panel B presents the DDD in which we use married mothers as an additional comparison group. See the text and Appendix E for more details. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.22: Effect of Early Work Incentives on Jointly Having "High Earnings" (Top 25%) and "High Experience" (Top 75%)

	Pr(High Earn + High Exp)	Pr(High Earn + Low Exp)	Pr(Low Earn + High Exp)	Pr(Low Earn + Low Exp)
A: Never-Married				
10+ Yrs From Birth * EarlyExp	0.021***	-0.002	0.031***	-0.050***
	(0.005)	(0.002)	(0.009)	(0.009)
Mean Y	0.134	0.012	0.449	0.406
Observations	282275	282275	282275	282275
B: DDD				
10+ Yrs From Birth * EarlyExp * NM	0.017**	0.000	0.010	-0.028***
	(0.007)	(0.002)	(0.010)	(0.008)
Mean Y	0.240	0.010	0.478	0.272
Observations	2714475	2714475	2714475	2714475

Notes: This table shows the results from regressions comparing outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 10+ years from first birth. The outcomes are indicators for having "high earnings" (top 25%) or "low earnings" (bottom 75%) crossed with indicators for having "high experience" (top 75%) or "low experience" (bottom 25%). We show estimates for having "high experience and high earnings" (column 1), having high earnings and low experience (column 2), "low earnings and high experience" (column 3), and "low earnings and low experience" (column 4). Panel A presents the DD using never-married mothers. Panel B presents the DDD in which we use married mothers as an additional comparison group. See the text and Appendix E for more details. See Table 1 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.23: Effect of Early Work Incentives on Service Occupations – CPS Responses

	Service							
	Housekeep	Janitor	Food	Child	Beauty	Recreation	Protect	Health Serv
Panel A: Never Married								
0-4 Yrs from Birth * EarlyExp	-0.019*	-0.007	0.027	0.012	-0.003	0.001	0.008	0.013
	(0.011)	(0.009)	(0.022)	(0.007)	(0.008)	(0.003)	(0.006)	(0.018)
5-9 Yrs from Birth * EarlyExp	-0.011	-0.001	0.015	0.012*	0.004	0.002	0.010	0.033*
	(0.012)	(0.008)	(0.020)	(0.007)	(0.010)	(0.003)	(0.009)	(0.018)
10+ Yrs from Birth * EarlyExp	-0.009	-0.004	0.019	0.003	-0.004	0.000	0.006	0.040**
	(0.011)	(0.007)	(0.013)	(0.006)	(0.009)	(0.005)	(0.007)	(0.018)
Mean Y	0.025	0.017	0.064	0.015	0.013	0.006	0.012	0.066
Individuals	10006	10006	10006	10006	10006	10006	10006	10006
Panel B: Add Married Comparison								
0-4 Yrs from Birth * EarlyExp * NM	-0.019*	-0.007	0.029	0.010	-0.007	0.004	0.008	0.013
	(0.010)	(0.009)	(0.022)	(0.009)	(0.010)	(0.004)	(0.006)	(0.020)
5-9 Yrs from Birth * EarlyExp * NM	-0.010	-0.005	0.012	0.011	0.002	0.003	0.015	0.027
	(0.012)	(0.008)	(0.020)	(0.007)	(0.011)	(0.003)	(0.009)	(0.019)
10+ Yrs from Birth * EarlyExp * NM	-0.007	-0.006	0.021	0.002	-0.004	0.002	0.008	0.035**
	(0.011)	(0.007)	(0.013)	(0.007)	(0.009)	(0.005)	(0.007)	(0.017)
Mean Y	0.013	0.008	0.034	0.018	0.012	0.004	0.006	0.034
Individuals	95573	95573	95573	95573	95573	95573	95573	95573

Notes: This table shows the results from regressions comparing the probability of reporting being in each service occupation (including mothers that are not working) between mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 0–4, 5–9, and 10+ years from a first birth. Panel A presents the single-difference using never-married mothers. Panel B presents the DD in which we use married mothers as an additional comparison group. Occupation definitions are in Appendix C.1. See Table 4 for information on control variables, and Table 1 for information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Table A.24: Effect of Early Work Incentives on Non-Service Occupations – CPS Responses

	Non-Service						
	Exec/Man	Prof/Tech	Fin Sales	Ret Sales	Cleric	Agricultural	Mech/Constr/Min
Panel A: Never Married							
0-4 Yrs from Birth * EarlyExp	0.019	-0.028	0.017	-0.021	-0.005	0.001	-0.003
	(0.021)	(0.021)	(0.012)	(0.025)	(0.032)	(0.005)	(0.005)
5-9 Yrs from Birth * EarlyExp	0.013	-0.009	0.007	-0.013	0.000	0.009	-0.002
	(0.020)	(0.025)	(0.010)	(0.018)	(0.025)	(0.006)	(0.005)
10+ Yrs from Birth * EarlyExp	0.018	-0.031	0.002	-0.013	-0.038*	0.008*	-0.002
	(0.015)	(0.023)	(0.007)	(0.013)	(0.023)	(0.004)	(0.004)
Mean Y	0.064	0.107	0.022	0.064	0.188	0.006	0.005
Individuals	10006	10006	10006	10006	10006	10006	10006
Panel B: Add Married Comparison							
0-4 Yrs from Birth * EarlyExp * NM	0.032	-0.026	0.014	-0.008	-0.006	-0.007	-0.002
	(0.023)	(0.024)	(0.012)	(0.026)	(0.034)	(0.006)	(0.006)
5-9 Yrs from Birth * EarlyExp * NM	0.012	-0.002	0.004	-0.007	-0.012	0.006	0.001
	(0.020)	(0.030)	(0.011)	(0.019)	(0.026)	(0.006)	(0.005)
10+ Yrs from Birth * EarlyExp * NM	0.025	-0.023	-0.001	-0.014	-0.051**	0.008	-0.000
	(0.016)	(0.024)	(0.009)	(0.014)	(0.025)	(0.005)	(0.004)
Mean Y	0.105	0.204	0.032	0.044	0.177	0.008	0.004
Individuals	95573	95573	95573	95573	95573	95573	95573

Notes: This table shows the results from regressions comparing the probability of reporting being in each non-service occupation (including mothers that are not working) between mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 0–4, 5–9, and 10+ years from a first birth. Panel A presents the single-difference using never-married mothers. Panel B presents the DD in which we use married mothers as an additional comparison group. Occupation definitions are in Appendix C.1. See Table 4 for information on control variables, and Table 1 for information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

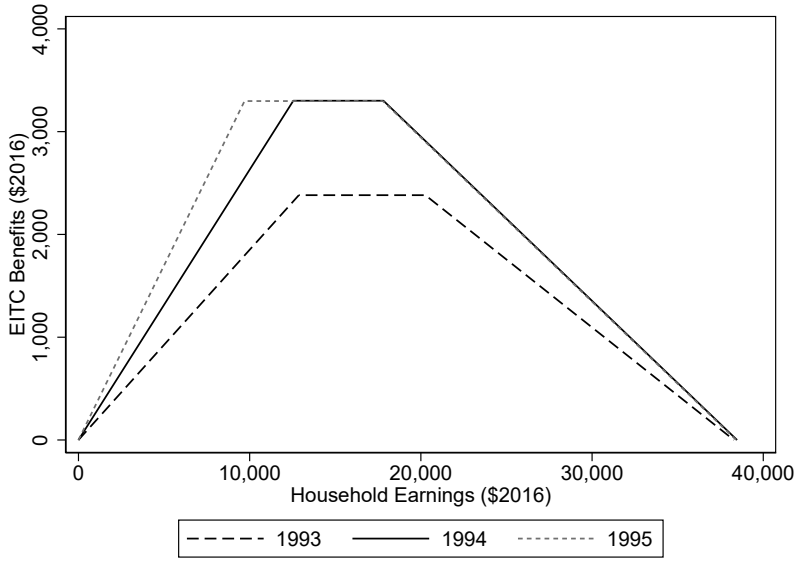
Table A.25: Effect of Early Work Incentives on Government Transfers – CPS Responses

	Welfare	Disability	SNAP	Medicaid	Hous Sub	Total
A: Never Married						
0-4 Yrs from Birth * EarlyExp	-740.874***	51.908	-402.114**	-273.883	3.214	-1298.326***
	(254.608)	(69.386)	(192.637)	(186.802)	(11.235)	(480.694)
5-9 Yrs from Birth * EarlyExp	-846.759***	-23.961	-780.109***	-49.528	-19.218	-1551.727***
	(148.823)	(57.493)	(157.032)	(194.046)	(12.810)	(358.077)
10+ Yrs from Birth * EarlyExp	17.816	23.956	-231.168	53.832	-14.539*	-31.829
	(116.330)	(67.529)	(139.410)	(178.773)	(8.383)	(325.256)
Mean Y	864.630	79.039	1309.217	1334.773	60.216	3628.724
Observations	10020	10020	9438	8228	9193	8228
B: Add Married Comparison						
0-4 Yrs from Birth * EarlyExp * NM	-724.784***	120.044	-343.550*	-85.638	4.018	-936.082*
	(243.054)	(104.412)	(181.961)	(168.744)	(11.141)	(475.686)
5-9 Yrs from Birth * EarlyExp * NM	-823.997***	-54.906	-710.442***	-134.911	-18.236	-1599.150***
	(158.484)	(73.306)	(153.548)	(200.210)	(12.726)	(356.497)
10+ Yrs from Birth * EarlyExp * NM	-8.960	-7.312	-237.127*	81.541	-14.640*	-61.332
	(110.452)	(77.426)	(130.537)	(195.118)	(8.355)	(302.951)
Mean Y	138.584	136.681	281.872	866.221	8.672	1405.240
Observations	98077	98077	91689	80508	89921	80508

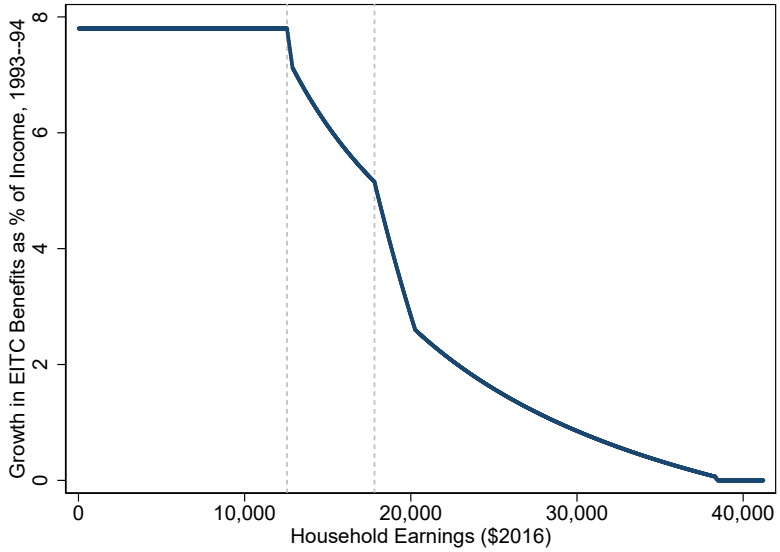
Notes: This table shows the results from regressions comparing the amount of cash and in-kind transfers from each government program (shown in the headers) between mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 0–4, 5–9, and 10+ years from a first birth. Panel A presents the single-difference using never-married mothers. Panel B presents the DD in which we use married mothers as an additional comparison group. See Table 4 for information on control variables, and Table 1 for information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

Figure A.1: EITC Schedule for Households with One Child

(a) 1993, 1994 and 1995 Benefit Levels

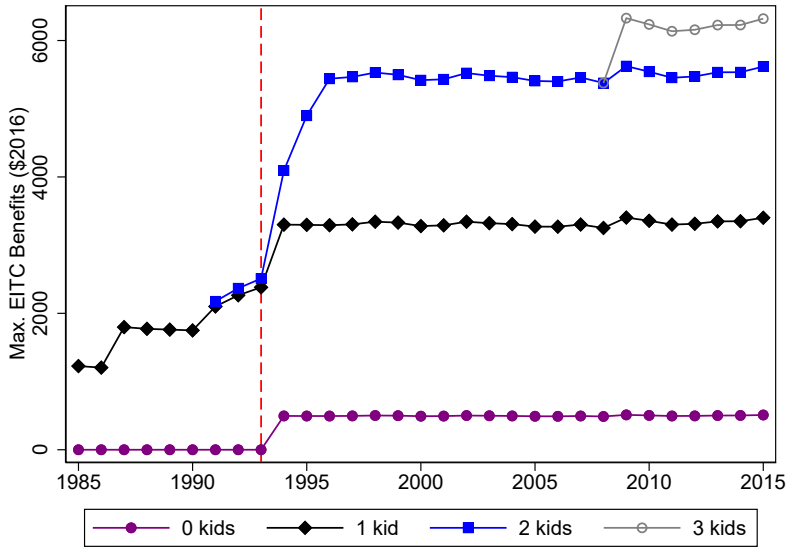


(b) 1993-1994 Change in Benefits (as % of Earnings)



Notes: Panel A shows EITC benefits ($2016) at each level of earnings for households with one child in 1993, 1994, and 1995. Panel B shows the difference between 1994 and 1993 benefits as a share of household income. *Data:* Nominal EITC benefits are obtained from the Tax Policy Center (https://www.taxpolicycenter.org/statistics/eitc-parameters), and have been converted to 2016 dollars using the CPI from the Bureau of Labor Statistics.

Figure A.2: Maximum EITC Benefits by Number of Children

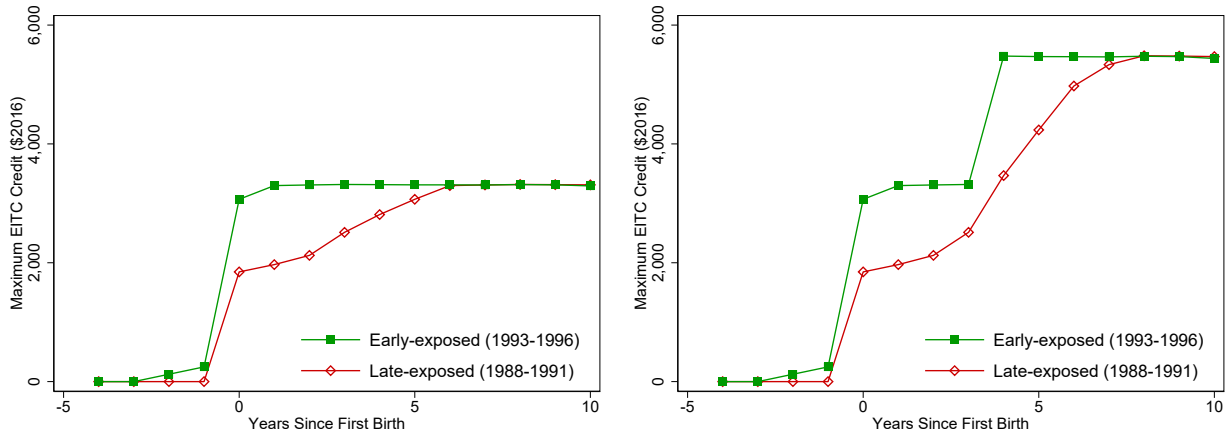


Notes: This figure shows the maximum EITC benefits ($2016) in each year and by number of qualifying children. *Data:* Nominal EITC benefits are obtained from the Tax Policy Center (https://www.taxpolicycenter.org/statistics/eitc-parameters), and have been converted to 2016 dollars using the CPI from the Bureau of Labor Statistics.

Figure A.3: Maximum EITC Credit by Age of First Child and Year of First Birth

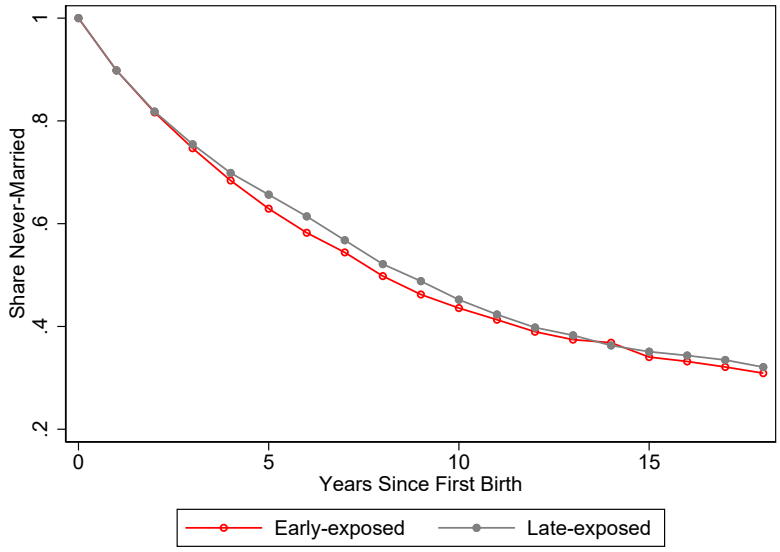
(a) Assume 1 Child Only

(b) Assume 2^{nd} Child After 4 Years



Notes: Panel (a) presents the average maximum EITC benefits in each year since first birth for mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), assuming they have at most 1 child. Panel (b) shows the same outcomes, but assuming all mothers have a second child 4 years after a first birth. The spacing between children only affects where the second bump in Panel (b) occurs, not the maximal difference or the year of convergence. *Data:* Nominal EITC benefits are obtained from the Tax Policy Center (https://www.taxpolicycenter.org/statistics/eitc-parameters), and have been converted to 2016 dollars using the CPI from the Bureau of Labor Statistics.

Figure A.4: Share of Mothers Remaining Never-Married in Each Year Since First Birth (SIPP)

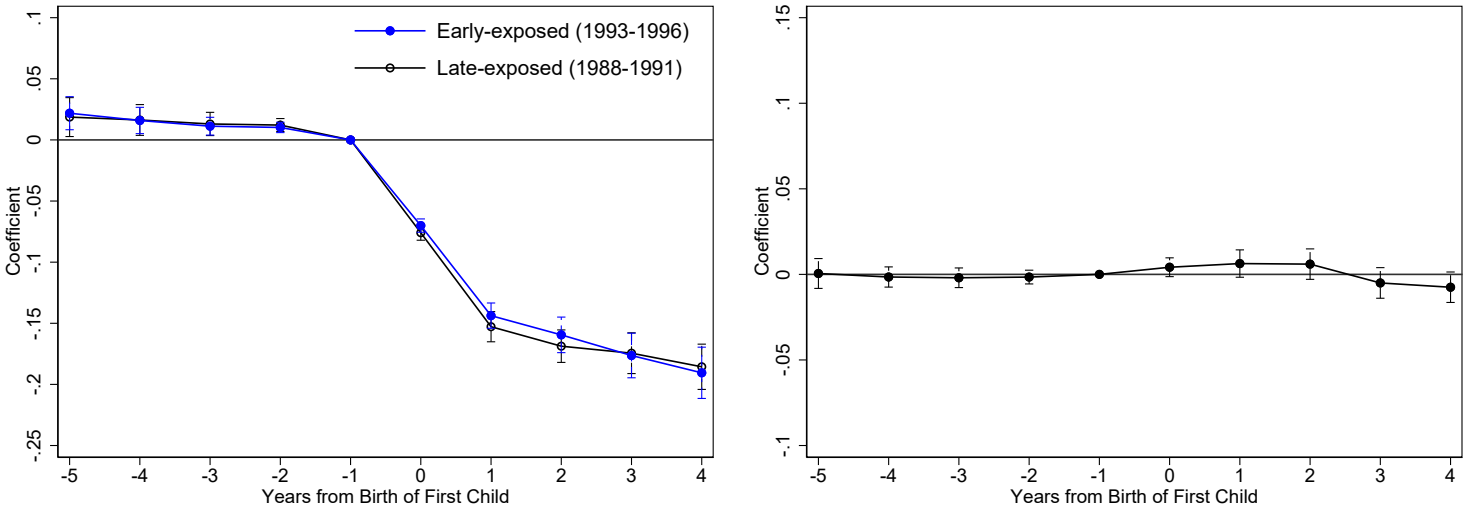


Notes: This figure presents the share of mothers who were never-married at first birth that remain never-married in each year since first birth. We plot this separately for mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991). *Data:* 1990, 1993, 1996, 2001, 2004, 2008 SIPP Wave 2 Topical Modules and 2014 SIPP. Sample: women whose first child was born in 1988–1991 or 1993–1996, and who were never married at the time of this first birth. Estimates weighted by SIPP weights.

Figure A.5: Effect of Early Work Incentives on Short-Run Employment – Married Mothers

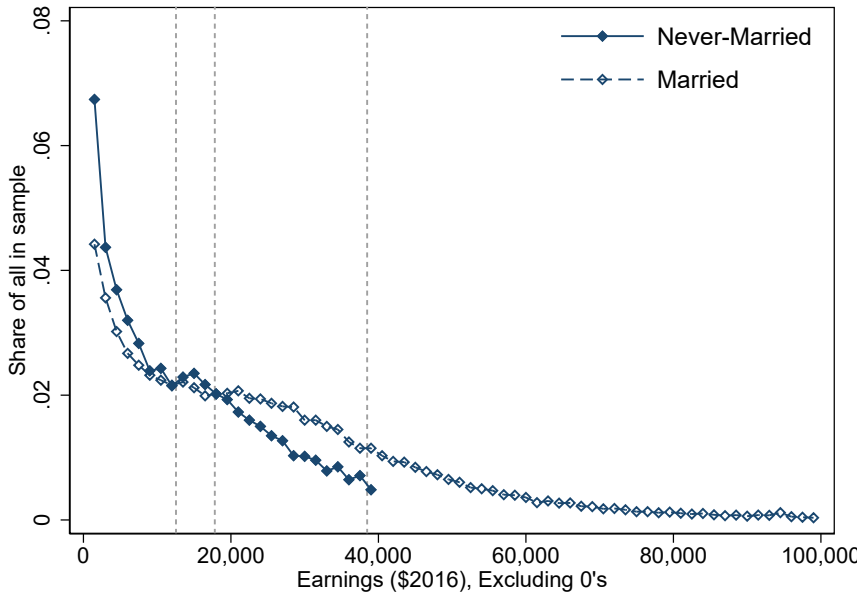
(a) Early- and Late-Exposed

(b) Difference-in-Difference



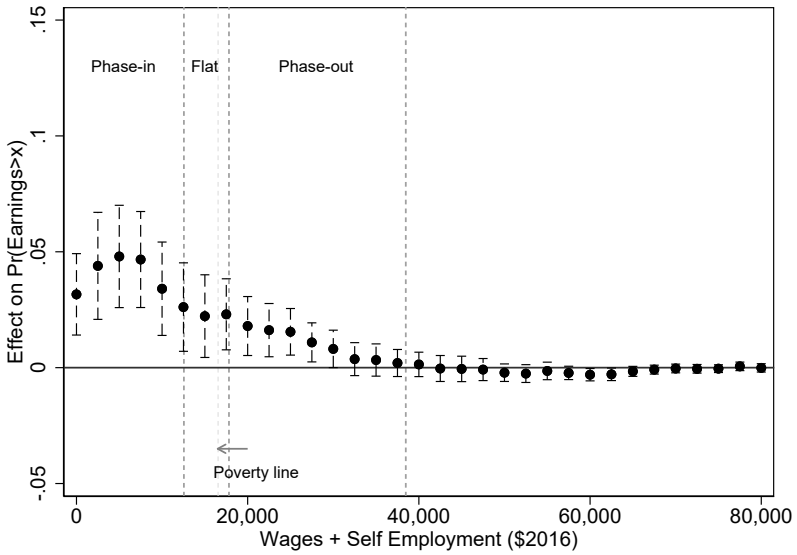
Notes: These figures present point estimates and 95% confidence intervals from event studies of employment around birth for married mothers who were exposed to the 1993 EITC reform early (first birth: 1993–1996) or late (first birth: 1988–1991). Panel A plots the estimates on indicators for years since first birth crossed with being "early-exposed" or "late-exposed" using never-married mothers. Panel B shows the estimates for the dynamic DD using married mothers. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Figure A.6: Distribution of Post-birth Earnings, Excluding 0's – Late-Exposed Mothers



Notes: This figure shows the truncated distribution of earnings, excluding 0's, zero to three years after a first birth for never-married and married mothers who were exposed to the 1993 EITC reform late (first birth: 1988–1991). We omit the never-married distribution beyond $40,000 due to to having too few observations (less than 20 observations per bin). See the notes of Figure 2 for information on data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 4^{th} year after a first birth.

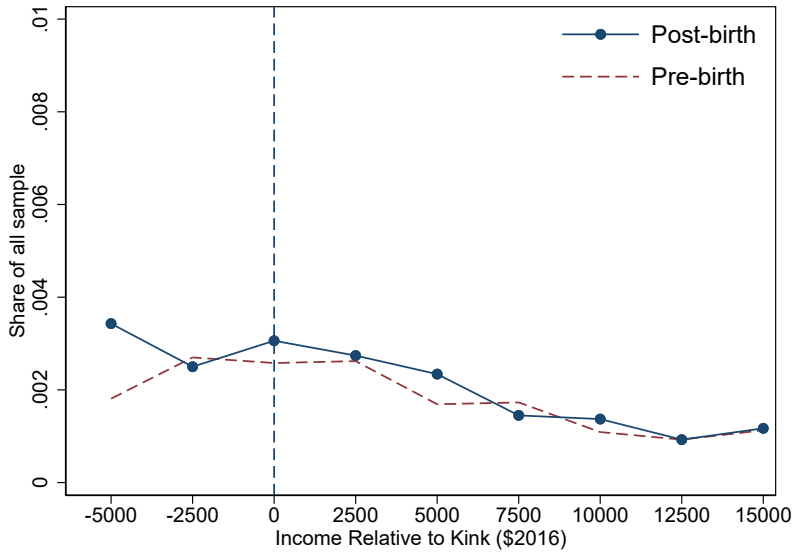
Figure A.7: Effect of Early Work Incentives on Earnings Density – Difference-in-Difference Estimates



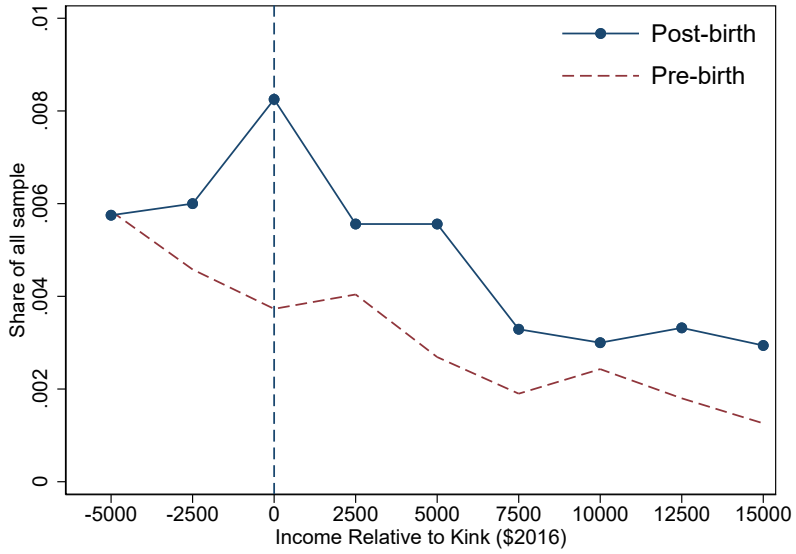
Notes: This figure shows coefficients and 95% confidence intervals from difference-in-difference regressions that compare the earnings distribution of never-married mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991). Each marker is obtained from a separate regression, where the outcome is an indicator for having annual earnings ($2016) at least as large as X – where X is the amount shown on the x-axis – during years 0-3 since birth. The dashed grey lines show, respectively, the end of the phase-in region on the 1994 EITC schedule; the 1994 poverty line; the end of the flat region on the 1994 EITC schedule; and the end of the phase-out region on the 1994 EITC schedule. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. Nominal EITC benefits are obtained from the Tax Policy Center (https://www.taxpolicycenter.org/statistics/eitc-parameters). *Years:* We include data from 5 years prior to a first birth up to the 4^{th} year after a first birth.

Figure A.8: EITC Expansion and Bunching Before and After Birth – Never-Married Mothers

(a) Late-Exposed Self-Employed Mothers

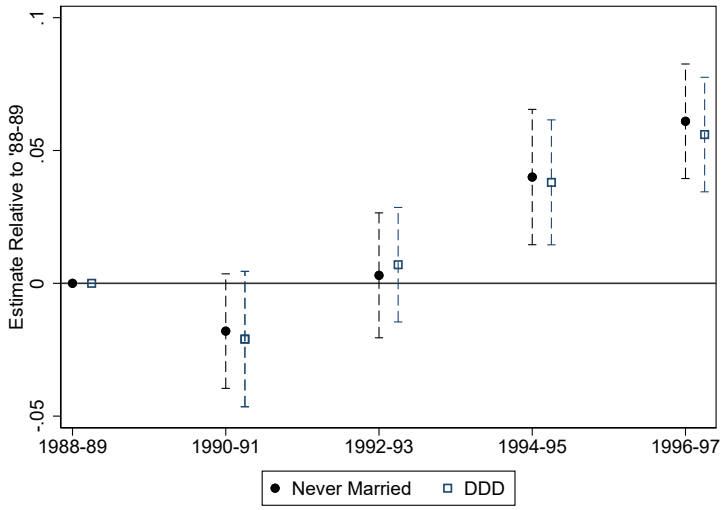


(b) Early-Exposed Self-Employed Mothers



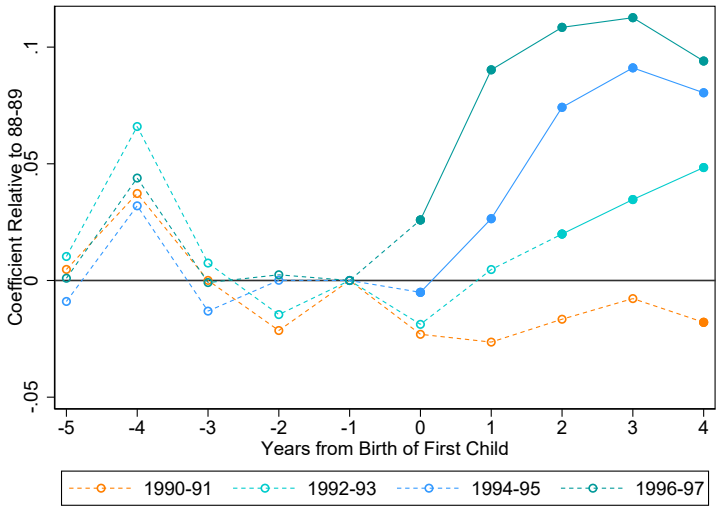
Notes: These figures shows the share of all never-married mothers who are self-employed and have income in $2,500 ($2016) bins centered around the first EITC kink, pre- and post-birth. Panel A shows no post-birth bunching for for mothers exposed to the 1993 EITC reform late (first birth: 1988–1991). Panel B shows post-birth bunching for for mothers exposed to the 1993 EITC reform early (first birth: 1993–1996). "Pre-Birth" includes the 5 years prior to a first birth, and "post-birth" includes up to the fifth year after a first birth. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Figure A.9: Effect of Early Work Incentives on Short-Run Employment – By Year of First Birth



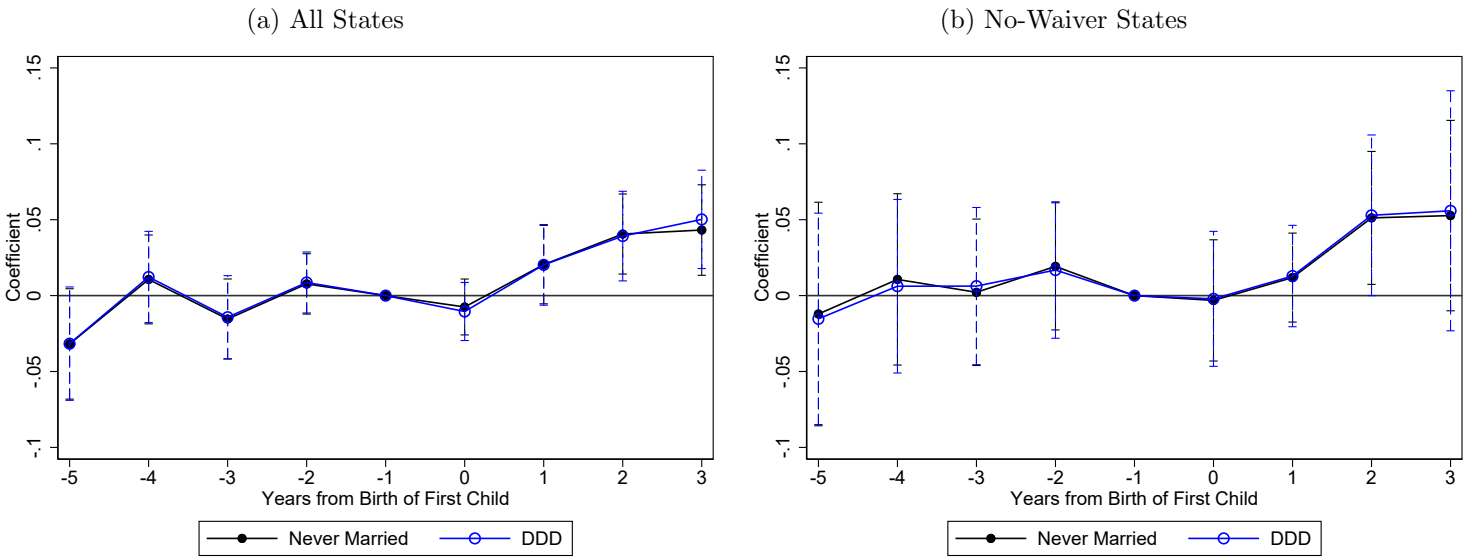
Notes: These figures show coefficients and 95% confidence intervals from regressions of employment on an indicator for "Post-Birth" interacted with indicators for having a first birth in 1990–91, 1992–93, 1994–95, or 1996–97. The omitted category (reference group) is first births in 1988-89. We present both the DD using never-married mothers as well as the DDD in which we use married mothers as an additional comparison group. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Figure A.10: Effect of Early Work Incentives on Short-Run Employment – By Year of First Birth and Years Since Birth



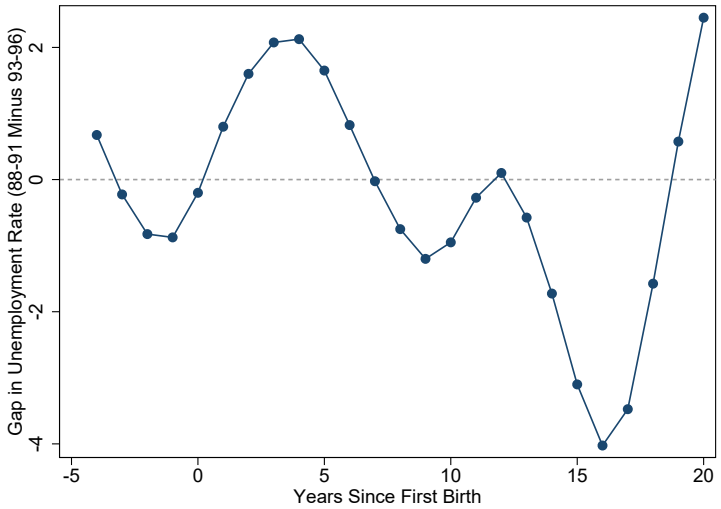
Notes: These figures show coefficients and 95% confidence intervals from event studies of employment in each year around birth by year of first birth. We plot the estimates on indicators for years since first birth interacted with indicators for having a first birth in 1990–91, 1992–93, 1994–95, or 1996–97. The omitted category (reference group) is first births in 1988-89. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth.

Figure A.11: Effect of Early Work Incentives on Short-Run Employment – Prior to Federal Welfare Reform



Notes: These figures present estimates and 95% confidence intervals from event studies of employment up to five years after a first birth, for mothers who were exposed to the 1993 EITC reform early (first birth: 1993–1996) or late (first birth: 1988–1991). For each figure we shows the estimates for the dynamic DD using never-married mothers and the dynamic DDD, where we use married mothers as an additional comparison group. Panel A limits the data to the years up to 1996. Panel B additionally restricts the data to states that had not passed a welfare waiver by 1996. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to the 5^{th} year after a first birth or 1996, whichever comes first.

Figure A.12: Difference in the Average Unemployment Rate Between Late- and Early-Exposed Mothers

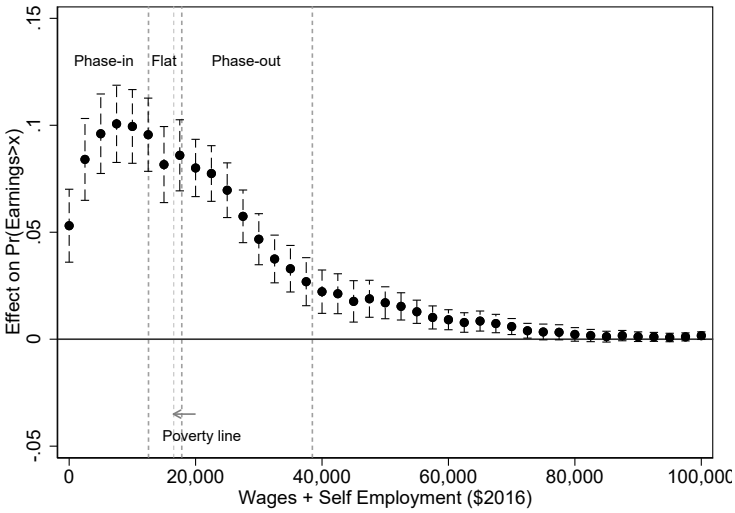


Notes: This figure shows the difference between the average unemployment rate for mothers who were exposed to the 1993 EITC reform late (first birth: 1988–1991) or early (first birth: 1993–1996). Hence, a positive value implies that early-exposed mothers had better employment conditions than late-exposed mothers at a given number of years since first birth. *Data:* State-level unemployment rates from the Bureau of Labor Statistics.

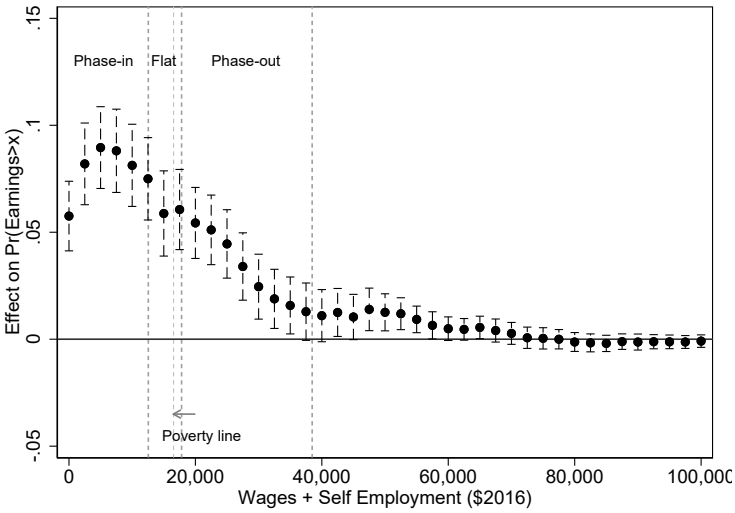
Figure A.13: Effect of Early Work Incentives on Earnings Density – Medium- and Long-Run

(a) Earnings in Years 5-9

(i) Never-Married

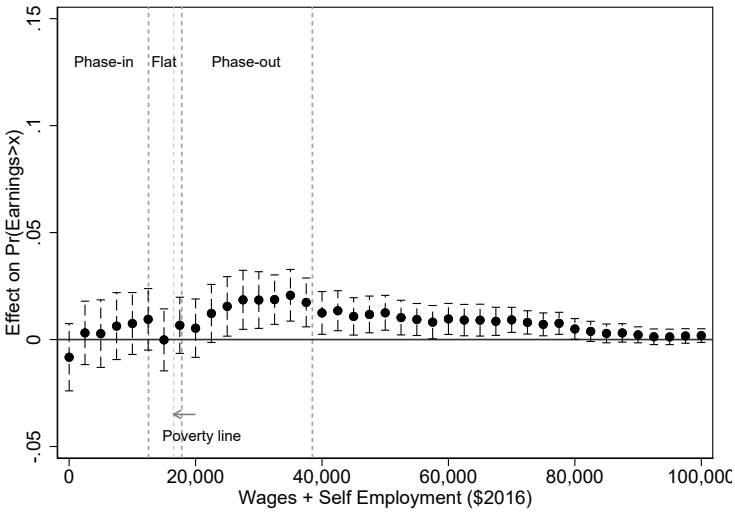


(ii) DDD

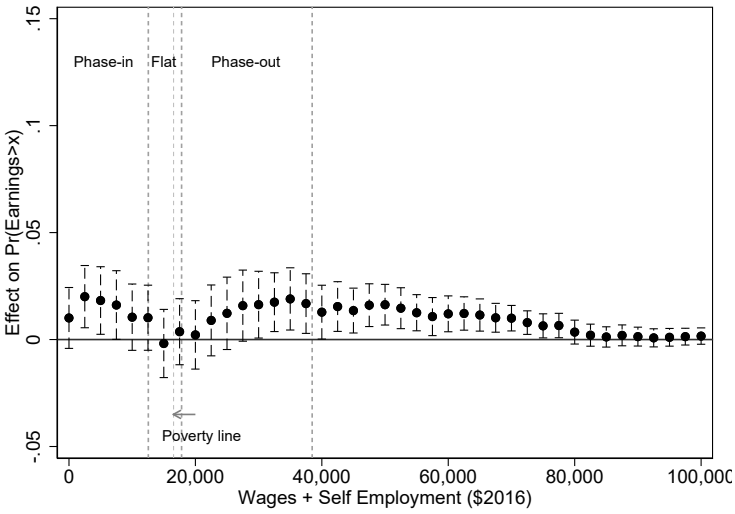


(b) Earnings in Years 10+

(i) Never-Married



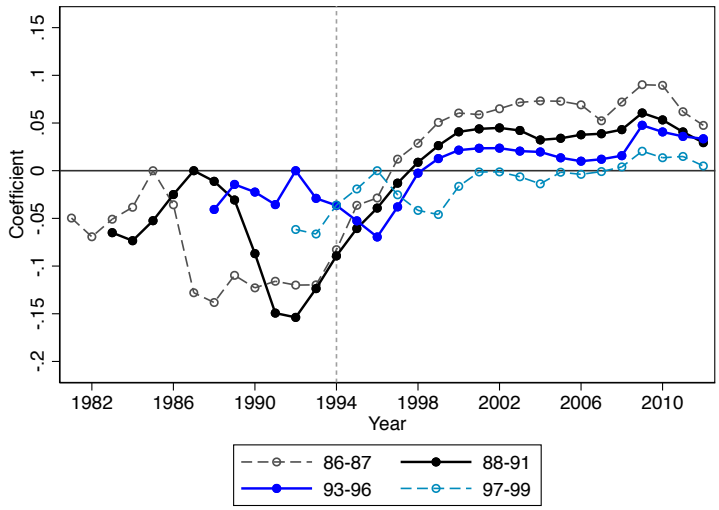
(ii) DDD



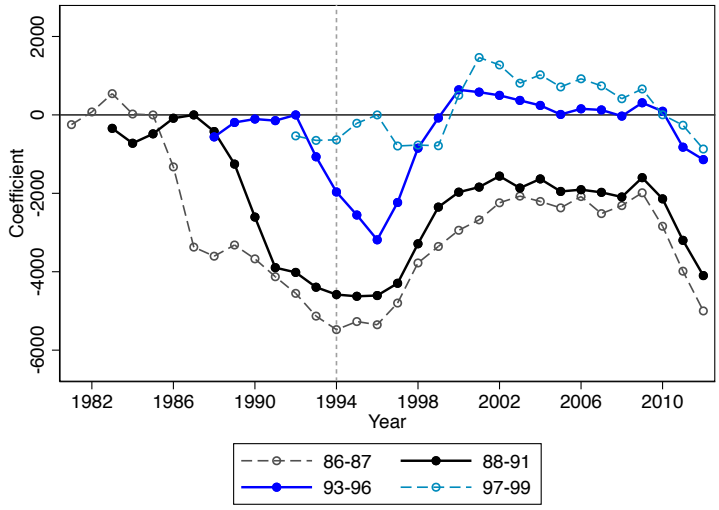
Notes: These figures show coefficients and 95% confidence intervals from DDD regressions that compare the earnings distribution of mothers with early exposure (first birth: 1993–1996) and late-exposure (first birth: 1988–1991) to the EITC reform, across never-married and married mothers. Each marker is obtained from a different regression, where the outcome is an indicator for having annual earnings ($2016) at least as large as X – where X is the amount shown on the x-axis – during years 5-9 (Panel A) or 10+ (Panel B) since birth. The dashed grey lines show, respectively, the end of the phase-in region on the 1994 EITC schedule; the 1994 poverty line; the end of the flat region on the 1994 EITC schedule; and the end of the phase-out region on the 1994 EITC schedule. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction. Nominal EITC benefits are obtained from the Tax Policy Center (https://www.taxpolicycenter.org/statistics/eitc-parameters). *Years:* We include data from 5 years prior to a first birth up to the 4^{th} year after a first birth.

Figure A.14: Effect of Early Work Incentives on Labor Market Outcomes – Never-Married Mothers, By Year of First Birth and Calendar Year

(a) Employment

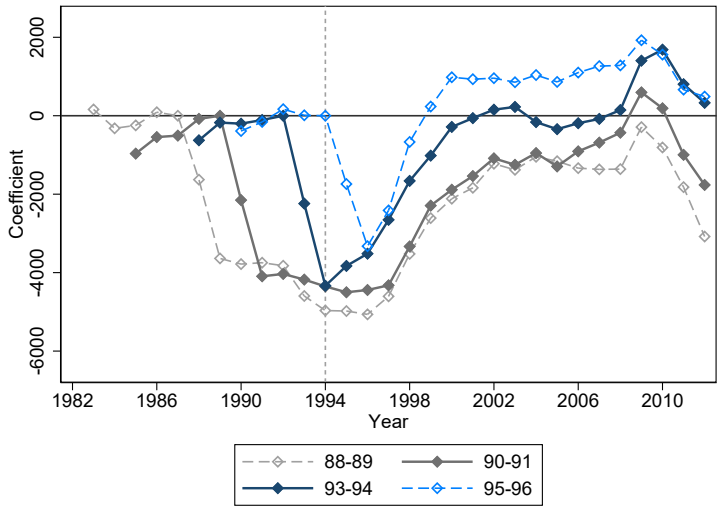


(b) Earnings



Notes: These figures show coefficients and 95% confidence intervals from calendar-year event studies of the employment (Panel A) or earnings ($2016, Panel B) of never-married mothers. We show the estimates on indicators for calendar years interacted with an indicator for being exposed to the 1993 EITC reform early (first birth: 1993–1996), late (first birth: 1988–1991), very late (first birth: 1986–1987) or very early (first birth: 1997–1999). For each group of mothers, the omitted category (reference group) is the year prior to the earliest birth (e.g. 1992, for 1993–1996 births). All regressions include fixed effects for the year of first childbirth, mother's age, race, education, state of residence, the state-level unemployment rate, minimum wage, AFDC/TANF maximum benefit level, Medicaid generosity, implementation of six types of welfare waivers, implementation of any waiver or TANF, and implementation of the 2009 EITC reform. See the notes of Figure 2 for information on standard errors, data and sample construction. *Years:* We include data from 5 years prior to a first birth up to 2012.

Figure A.15: Zooming in on Earnings of Early- and Late-Exposed Never-Married Mothers – Groups of Two Cohorts, By Calendar Year

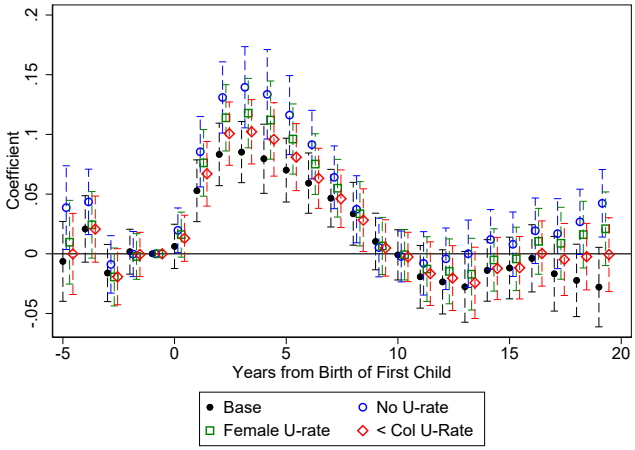


Notes: This figure shows coefficients and 95% confidence intervals from calendar-year event studies of the earnings ($2016) of never-married mothers. We show the estimates on indicators for calendar years interacted with an indicator for being exposed to the 1993 EITC reform early (first birth: 1993–1996) or late (first birth: 1988–1991). or each group of mothers, the omitted category (reference group) is the year prior to the earliest birth (e.g. 1992, for 1993–1996 births). See the notes of Figure 2 for information on standard errors, data and sample construction, and of Appendix Figure A.14 for control variables. *Years:* We include data from 5 years prior to a first birth up to 2012.

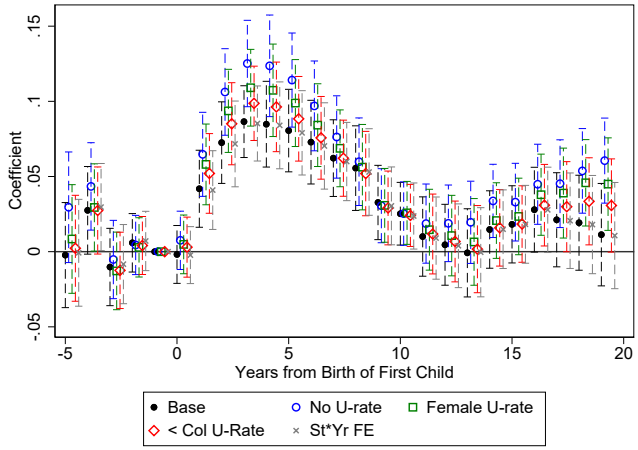
Figure A.16: Effect of Early Work Incentives on Labor Market Outcomes – Sensitivity to Alternative Unemployment Rate Measures and State-Year Fixed Effects

(a) Employment

(i) Never-Married

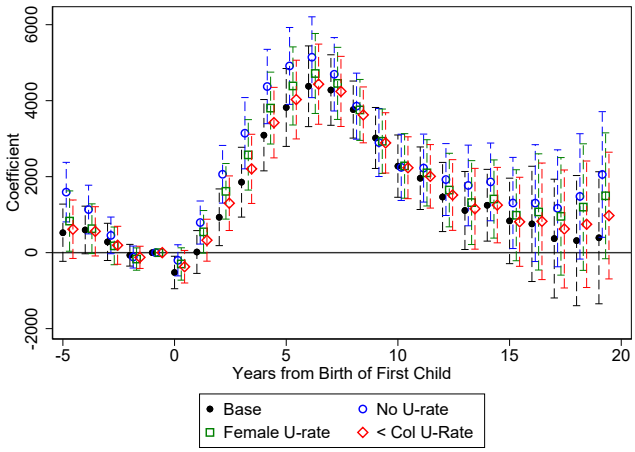


(ii) DDD

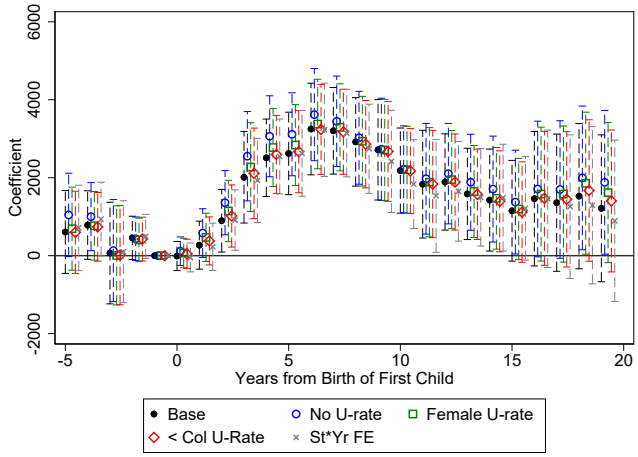


(b) Earnings

(i) Never-Married



(ii) DDD

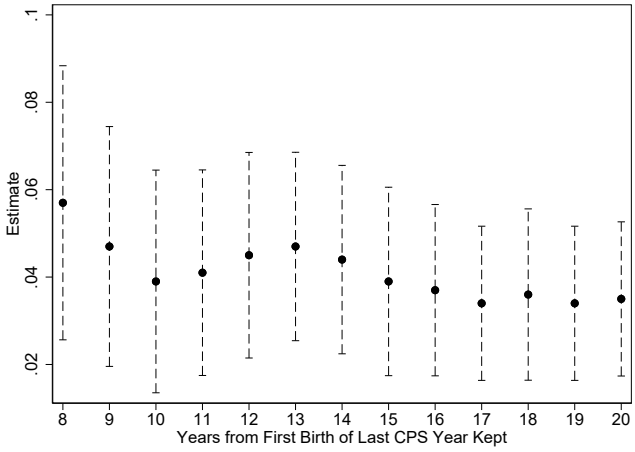


Notes: These figures present the sensitivity of the coefficients and 95% confidence intervals for event studies that compare the employment (Panel A) or earnings ($2016, Panel B) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), in each year from a first birth. Figure (i) in each panel presents the dynamic DD using never-married mothers. Figure (ii) in each panel presents the DDD in which we use married mothers as an additional comparison group. In addition to the baseline estimates, we show results from specifications where we remove all unemployment rate controls (blue circles); substitute the state-level unemployment rate with a control for the average unemployment rate for women in the state (green squares) or with a control for the average unemployment rate in the state for individuals with less than a college education (red diamonds). See the notes of Figure 2 for information on baseline control variables, standard errors, data and sample construction. We calculate the unemployment rate for women and for individuals with less than college education from the 1983–2015 March CPS. *Years:* We include data from 5 years prior to a first birth up to the 20^{th} year after a first birth.

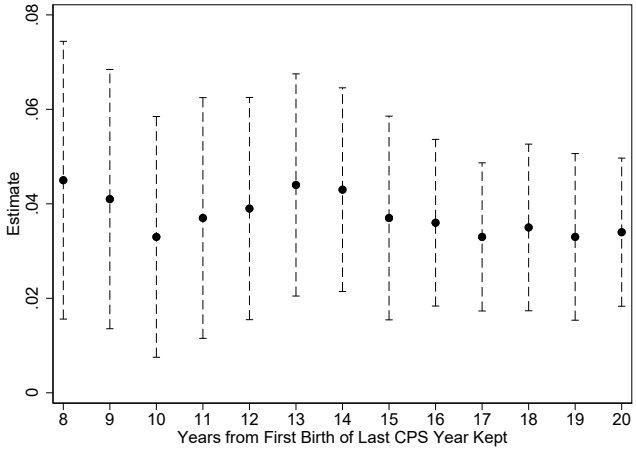
Figure A.17: Effect of Early Work Incentives on Labor Market Outcomes – Sensitivity to Keeping CPS Surveys *at most* from 8 to 20 Years of Birth

(a) Short-term Employment

(i) Never-Married

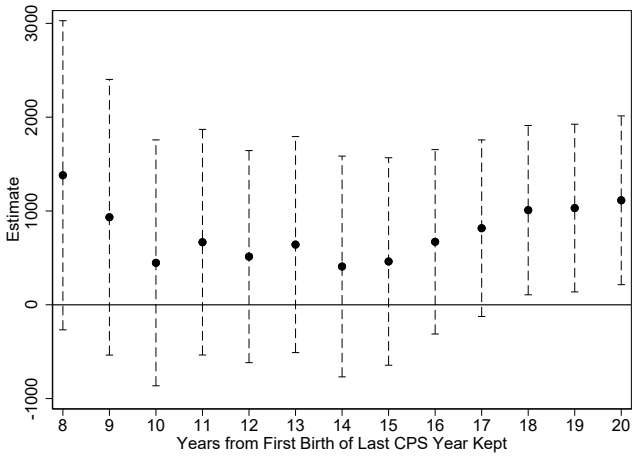


(ii) DDD

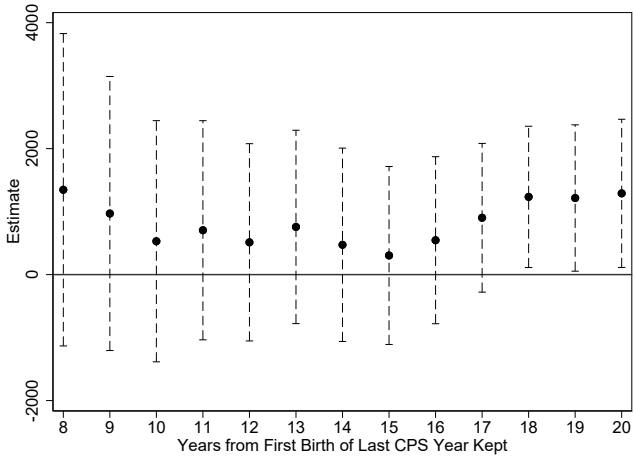


(b) Long-run Earnings

(i) Never-Married

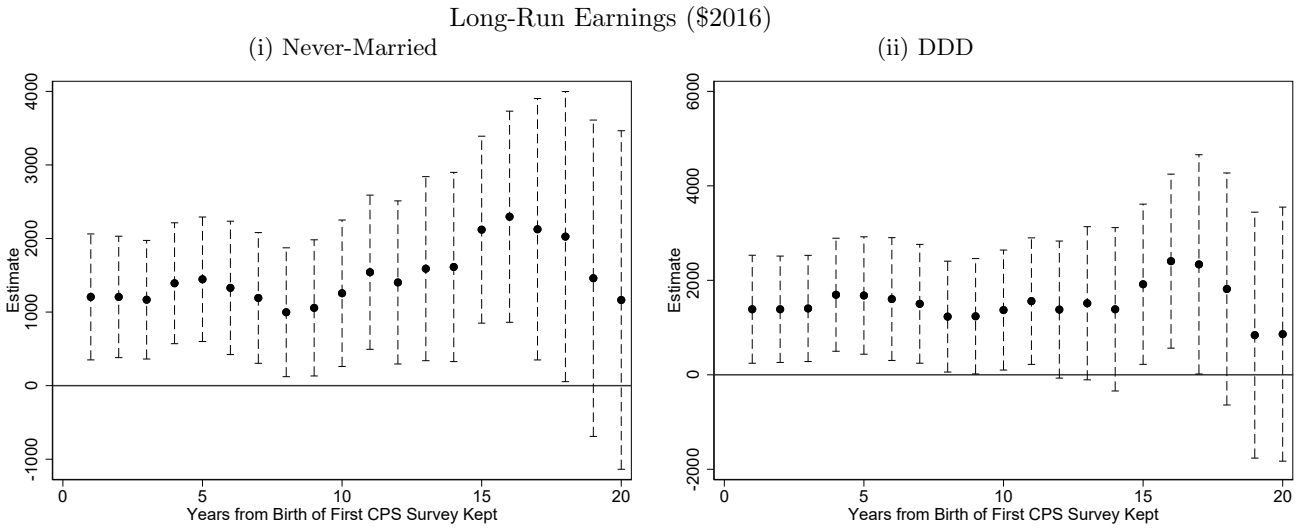


(ii) DDD



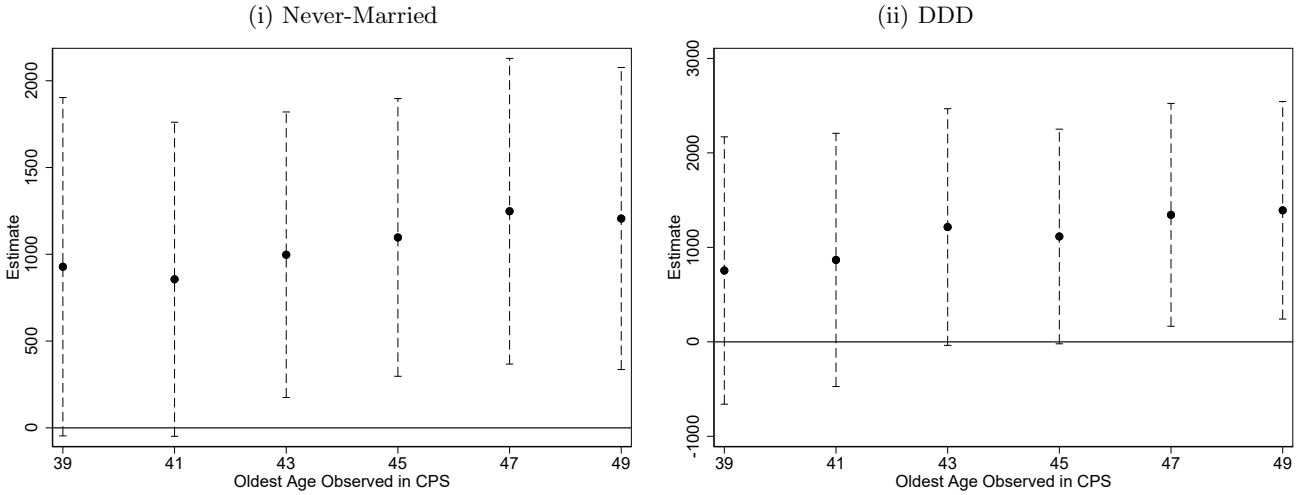
Notes: These figures present estimates and 95% confidence intervals from regressions comparing the labor market outcomes of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), as we vary the sample restrictions. Each marker comes from a separate regression where we keep CPS surveys that occurred at most 8, 9, ...20 years from first birth. Panel A shows the results for employment 0-4 years from first birth. Panel B shows the results for earnings ($2016) 5-9 and 10+ years from first birth. Figure (i) in each panel presents the DD using never-married mothers. Figure (ii) in each panel presents the DDD in which we use married mothers as an additional comparison group. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction.

Figure A.18: Effect of Early Work Incentives on Labor Market Outcomes – Sensitivity to Keeping CPS Surveys *at least* 1 to 20 Years after Birth



Notes: These figures shows estimates and 95% confidence intervals from regressions comparing the earnings ($2016) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 10+ years from a first birth, as we vary the sample restrictions. Each marker comes from a separate regression where we keep CPS surveys that occurred at least 1, 2, ...20 years from first birth. Figure (i) presents the DD using never-married mothers. Figure (ii) presents the DDD in which we use married mothers as an additional comparison group. See the notes of Figure 2 for information on control variables, standard errors, data and sample construction.

Figure A.19: Effect of Early Work Incentives on Long-Run Earnings – Sensitivity to Using Women Interviewed By Age 39 to 49

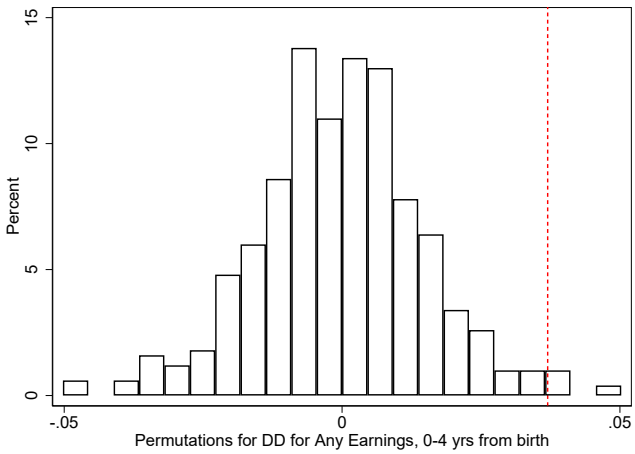


Notes: These figures shows estimates and 95% confidence intervals from regressions comparing the earnings ($2016) of mothers exposed to the 1993 EITC reform early (first birth: 1993–1996) and late (first birth: 1988–1991), 10+ years from a first birth, as we vary the sample restrictions. Each marker comes from a separate regression where we restrict our sample to only keep women that were no older than 39, 41...49 when interviewed in the CPS. Figure (i) presents the DD using never-married mothers. Figure (ii) presents the DDD in which we use married mothers as an additional comparison group. See the notes of Figure 2 for information on control variables, standard errors, data and baseline sample construction.

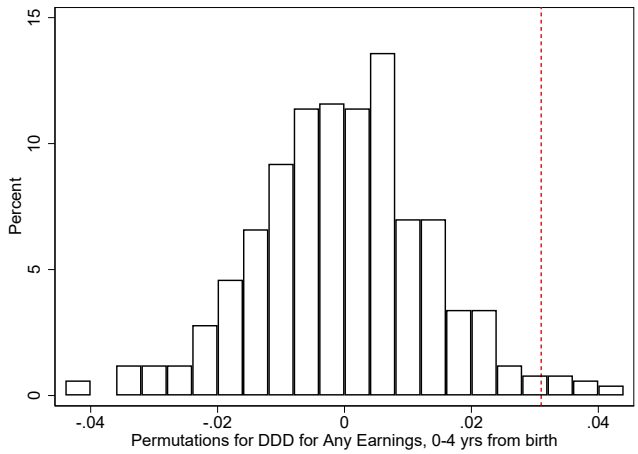
Figure A.20: Effect of Early Work Incentives on Labor Market Outcomes – Randomization Inference

(a) Short-term Employment

(i) Never-Married

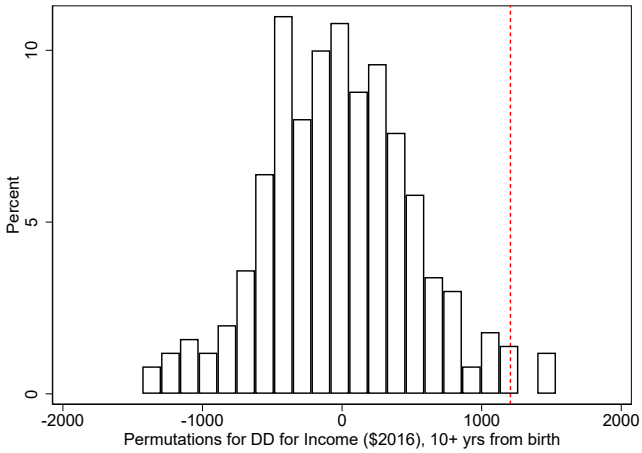


(ii) DDD

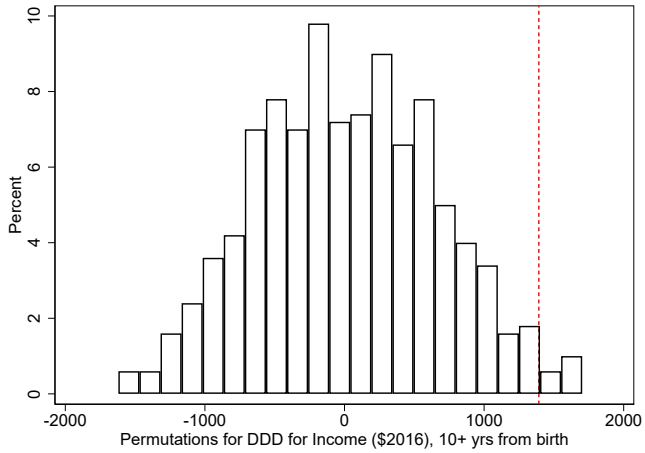


(b) Long-Term Earnings ($2016)

(i) Never-Married

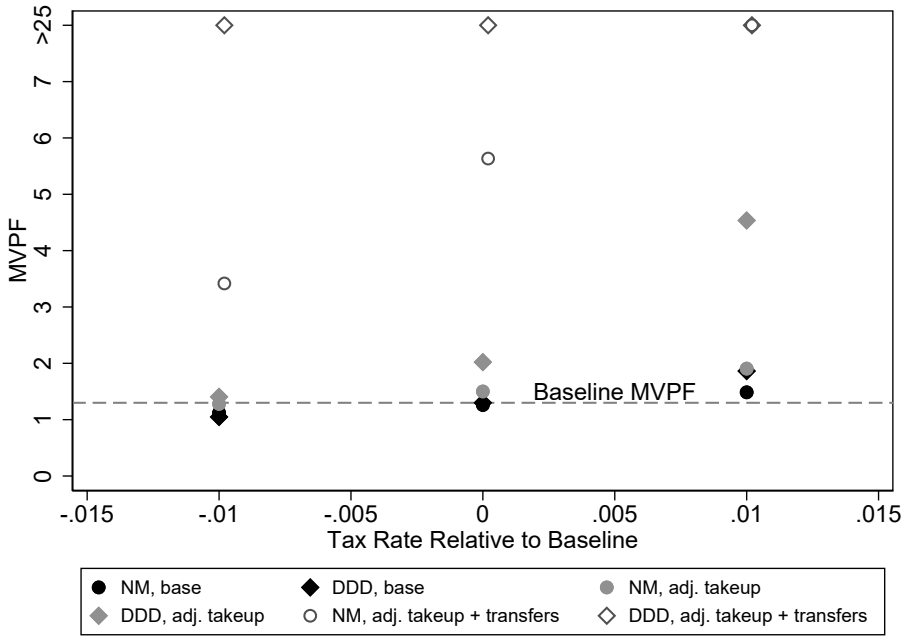


(ii) DDD



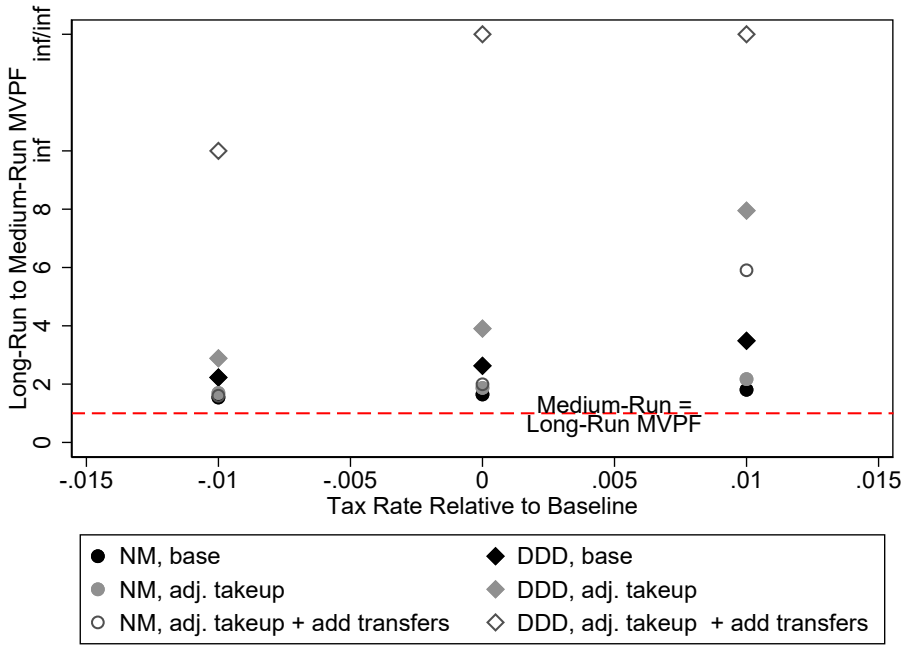
Notes: These figures show the distribution of estimates from 500 placebo experiments comparing the employment (Panel A) or earnings ($2016, Panel B) of mothers exposed to the EITC "reform" with "early" and "late", where early and late exposure are randomly assigned. In particular, for each placebo experiment we randomly assign "early-exposure" to four randomly chosen years of birth drawn without replacement, and estimate a placebo DD and DDD estimate. Panel A keeps data up to 5 years from first birth and reports the DD or DDD coefficient (figures (i) and (ii), respectively). Panel B keeps data up to 20 years from first birth and reports the DD or DDD coefficient on the interaction with "10+ Yrs From Birth" (figures (i) and (ii), respectively). The red dotted line shows our baseline estimate. The one-sided p-values for short-run employment are 0.01 for both the DD and DDD. The one-sided p-values for long-run earnings are 0.02 for both the DD and DDD. See the notes of Figure 2 for information on control variables, standard errors, data and baseline sample construction.

Figure A.21: Long-Run MVPF Across Varying Assumptions



Notes: This figure shows the estimated MVPF of the EITC expansion for early-exposed never-married mothers under varying assumptions about the average income tax rate (shown on the x-axis) and about EITC take-up and fiscal externalities (shown in different markers). The MVPF estimates shown in the "base" markers are calculated as $\frac{WTP}{Cost-\text{Add'l Taxes}}$. The estimates shown in the "adj. takeup" markers multiply WTP and cost by 0.85 to account for incomplete EITC takeup. The estimates shown in the "adj. takeup + transfers" markers apply this rescaling and also subtract our conservative change in transfers (excluding welfare and Medicaid) from the denominator of the MVPF. The tax rate relative to baseline applies to the tax rates that we use for the short-run, medium-run, and long run. In other words, we add (or subtract) 0.01 to the tax rate in each period, or set the tax rate equal to zero if subtracting makes the tax rate less than 0. The grey dotted line shows the MVPF corresponding to our baseline tax rate and assumptions.

Figure A.22: Ratio of Long-Run to Medium-Run MVPF Across Varying Assumptions



Notes: This figure shows the ratio of the "long-run" MVPF to the "medium-run" MVPF (i.e., excluding impacts 10+ years from first birth) under varying assumptions about the average income tax rate (shown on the x-axis) and about EITC take-up and fiscal externalities (shown in different markers). The MVPF estimates shown in the "base" markers are calculated as $\frac{WTP}{Cost-\text{Add'l Taxes}}$. The estimates shown in the "adj. takeup" markers multiply WTP and cost by 0.85 to account for incomplete EITC takeup. The estimates shown in the "adj. takeup + transfers" markers apply this rescaling and also subtract our conservative change in transfers (excluding welfare and Medicaid) from the denominator of the MVPF. The tax rate relative to baseline applies to the tax rates that we use for the short-run, medium-run, and long run. In other words, we add (or subtract) 0.01 to the tax rate in each period, or set the tax rate equal to zero if subtracting makes the tax rate less than 0. The red dotted line shows where the long-run and medium-run MVPFs are equal (i.e., the ratio is 1). Values above this line indicate that the long-run MVPF is greater than the medium-run MVPF

B Relationship to Kleven (2019)

As we note in the paper, the close timing of welfare reform with the 1993 EITC reform (hereafter, the reform) raises a number of potential challenges for our estimation. Kleven (2019) highlights a number of specific concerns in this vein. In this section, we outline the key points in Kleven's analysis of the reform and how our results address or differ from Kleven's findings.[51]

Brief summary of Kleven (2019) Kleven (2019) analyzes the effect of the reform using the 1989 to 2003 March and monthly CPS files, and a sample consisting of single women (never-married, divorced, widowed) between the ages of 20 and 50. His main analysis is a difference-in-difference design comparing women with kids to women without kids, before and after the reform. He presents three main results. First, he shows that the post-reform increase in employment was increasing in family size and decreasing in the age of one's youngest child. Second, he calculates very large implied elasticities of employment (participation), e.g. equal to 2.03 (1.79) for mothers with one child. Third, he shows that introducing dynamic controls for six types of welfare waivers (i.e., allowing the coefficients on these variables to vary by year and by number of children), and allowing the unemployment controls to vary by the presence of children, makes the EITC effect insignificant for the years prior to PRWORA. Kleven concludes from these results that the patterns are consistent with welfare reform, but not with the EITC narrative.

1. Impacts by number and age of children Different than Kleven, we do not find strictly increasing employment effects by family size or decreasing effects by child age. In particular, while we find that post-birth employment increases more after a second birth than after a first birth; we do not find a statistically significant difference between third or higher-order births and second births (see Section 4.3). These patterns are consistent with EITC incentives. Moreover, we do not find different employment effects between mothers whose first child at the time of the reform was no older than 1 ("early-exposed"), between the ages of 3-6 ("late-exposed), or between the ages of 7 and 8 (supplementary group) – see Appendix Figure A.14. One potential explanation for the difference in our results is that Kleven's analysis does not account for changes in *unobservable* characteristics of mothers over time, while our panel difference-in-difference strategy does. Consistent with this, Hotz and Scholz (2006) employ a panel family fixed effects strategy and find the same patterns by family size as we do.

2. Elasticity estimates Our back-of-the-envelope calculation in Section 4 suggests that the elasticity of employment to pre-tax labor earnings is between 0.54 and 0.72, or roughly 27% and 40% as large as the estimate for mothers with one child in Kleven (2019). The discrepancy between our estimates and Kleven's estimates reflect differences both in the numerator and the denominator of the elasticity. First, our employment effects in percent terms are half the size of Kleven's: 5.9

[51] Kleven also raises concerns with estimated effects of other EITC reforms – we do not address those here, since they are not relevant for our analysis.

percent ($\frac{3.7}{63.1}$) vs. 12.4 percent ($\frac{8.5}{68.1}$).[52] Second, Kleven calculates a 6.8% average change in tax rates. He obtains this by simulating taxes across years using observed earnings for working single mothers and predicted earnings for non-workers (based on individual characteristics). Instead, we calculate the change in EITC benefits between early- and late-exposed mothers using the post-birth distribution of late-exposed never-married mothers for workers, and imputing EITC benefits in three ways for non-workers. Specifically, we impute benefits assuming that non-workers earnings': (i) fall only in the phase-in region (ii) fall only in the phase-in or flat regions (weighted using the distribution of workers across these regions); or (iii) have the same distribution of earnings as working single mothers.[53] This produces changes in EITC benefits equal to an 8.2, 9.9, or 10.9 percent change as a share of pre-tax earnings, respectively. Our higher change in benefits primarily reflects our lower-income and younger population and the longer period over which we estimate changes in the EITC credit (e.g., we include the 1990 reform as part of our treatment). It also reflects the fact that, for some estimates, we allow the distribution of earnings for non-workers to be more concentrated in the phase-in regions post-reform. Thus, we do not make the strong assumption that the earnings distribution remains the same post-reform, as Kleven does.

3. Controlling for waivers and business cycle In a similar spirit to Kleven, we allow our unemployment rate and welfare waiver controls to be "dynamic" in allowing differential impacts by the age of one's first child.[54] Our estimates are not affected by allowing for this flexibility (see Section 4.3). We also show that our employment effects are present when we restrict our sample period up to 1996 and limiting our sample to states that did not pass any waivers prior to 1996 (e.g., Table 2, columns 7–8). Thus, these effects do not appear to be sensitive to these welfare controls, different than Kleven (2019). Further, we note that Kleven's effects inclusive of these controls are quite imprecise, and could not reject our estimated effects.[55]

[52] Again, we speculate that part of this difference is due to the fact that we control for pre-birth differences in labor market outcomes.

[53] The first two assumptions are motivated by the idea that non-workers are likely to be negatively selected on wages, or might be more likely to prefer part-time work.

[54] We do not model event-year dynamics for the welfare waivers as in some of the specification in Kleven (2019) because with six welfare waivers, passed largely in the 1990s, the dynamic waiver-event-time indicators quickly become collinear with our effects of interest. Nonetheless, given the strong relationship that Kleven shows between welfare response and child age, we would expect that these controls would account for important differences in incentives.

[55] For example, our effect inclusive of these controls is 3.2 pp. (column 5, Table 2), which is within the confidence interval of his 1.06 p.p. (s.e = 1.5 p.p.) in column 3 of Table 6.

C Appendix to Section 2

C.1 CPS occupations

Because the CPS occupation categories vary over time, we first create a harmonized occupation variable that spans our entire sample period using the IPUMS "occ1990" classification (Flood et al., 2020).[56] In particular, we downloaded the March CPS from IPUMS for the CPS surveys in our sample, and then collapsed the data by "occ1990" and the original CPS occupation variable to create a crosswalk. We then merge the crosswalk on to our data, which gives us the "occ1990" corresponding to each individual in our sample.

Next, we create categories of occupations based on similar types of jobs:

1. Housekeeping ($405 <= occ1990 <= 408$)
2. Janitor ($448 <= occ1990 <= 455$): includes janitors and building operators.
3. Food ($433 <= occ1990 <= 444$): includes bartenders, waiters, and kitchen workers.
4. Child ($occ1990 == 468$): includes child care workers.
5. Beauty ($456 <= occ1990 <= 458$): includes barbers and hairdressers
6. Recreation ($459 <= occ1990 <= 467$): includes guides and public transportation attendants.
7. Protect ($459 <= occ1990 <= 467$): includes firefighters, police, and guards.
8. Health Service ($445 <= occ1990 <= 447$): includes dental assistants and health aides.
9. Execs/Managers ($3 <= occ1990 <= 40$): includes legislators, managers, accountants, and management support.
10. Professional/Tech. ($43 <= occ1990 <= 240$): includes engineers, doctors, therapists, teachers, lawyers, and health technicians.
11. Financial sales ($243 <= occ1990 <= 260$): includes a variety of higher-end sales occupations (insurance, real estate, financial services).
12. Retail sales ($263 <= occ1990 <= 300$): includes salespersons, cashiers, and retail sales clerks.
13. Clerical ($303 <= occ1990 <= 389$): includes bank tellers, data entry, and admin support.
14. Agricultural ($473 <= occ1990 <= 499$): includes farmers, farm workers, and agricultural inspection.
15. Mech/Constr/Min ($503 <= occ1990 <= 617$): includes auto body repair, construction trades, and mining.

[56] See https://cps.ipums.org/cps-action/variables/OCC1990#codes_section for a description of these codes.

C.2 Matching CPS to Administrative Earnings Records

The match between CPS and SSA records is performed using the PIK, which is a unique mapping to a Social Security Number (SSN). Until 2006, PIKs were assigned using validated SSN's, if available, or a probabilistic match using name, address, and demographic information, such as date of birth. Since 2006, the PIK has been assigned solely using the probabilistic match, which prevents the need to request an SSN from respondents (Czajka et al., 2008). This match is only available for the 23 CPS surveys in our sample (1991, 1994, and 1996 to 2016). Conditional on an individual being matched to the SSA records, we observe W-2 and self-employment earnings in each year.

Below we show the share of married and never-married women that meet our sample criteria who are matched in each March CPS.

Table A.26: CPS-SSA Data Matching Rates – By Year, Marital Status and EITC Exposure

	Never Married		Married	
	Late-Exposed	Early-Exposed	Late-Exposed	Early-Exposed
1991	0.819		0.845	
1994	0.789	0.750	0.786	0.768
1996	0.796	0.816	0.830	0.818
1997	0.731	0.812	0.786	0.777
1998	0.696	0.762	0.731	0.717
1999	0.683	0.661	0.681	0.682
2000	0.680	0.696	0.677	0.679
2001	0.222	0.264	0.216	0.223
2002	0.772	0.784	0.794	0.782
2003	0.758	0.788	0.778	0.763
2004	0.732	0.670	0.704	0.690
2005	0.730	0.675	0.691	0.668
2006	0.914	0.918	0.907	0.880
2007	0.918	0.874	0.907	0.882
2008	0.933	0.864	0.902	0.877
2009	0.857	0.883	0.898	0.881
2010	0.868	0.859	0.887	0.877
2011	0.874	0.893	0.892	0.889
2012	0.873	0.906	0.871	0.888
2013	0.887	0.891	0.873	0.890
2014	0.921	0.894	0.855	0.888
2015	0.900	0.864	0.881	0.867
2016	0.841	0.871	0.832	0.849
Total	0.762	0.776	0.768	0.780

Notes: This table shows the share of CPS women that we match to SSA records among mothers who were exposed to the 1993 EITC reform early (first birth: 1993–1996) or late (first birth: 1988–1991). Data: 1991, 1994, 1996–2000 and 2002–2015 ASEC CPS linked to 1978–2015 longitudinal SSA earnings records. Sample: women whose first child was born in 1988–1991 or 1993–1996, who were at least 19 at first birth, and who were less than 50 years old and either married or never married at the time of the CPS interview.

Comparing CPS and administrative earnings To compare earnings in the CPS and SSA records, we use the "wage and salary" earnings reported in our linked CPS surveys and the sum of the W2 and self-employment earnings (for the year prior to the survey). We find several discrepancies across these sources. First, we find that 10% of the observations differ on whether an individual had any earnings. Over 60% of these errors are due to an individual reporting no earnings in the CPS, but having some earnings in the administrative data. Among individuals that have any earnings in both sources, there are substantial differences between the log of the administrative earnings and the log of the CPS earnings. The interquartile range for this measure ranges from -0.27 to 0.20, centered around 0, implying that discrepancies do not go in a consistent direction. Assuming that individuals can not earn less than what is reported in the administrative records,

this suggests that at least half of the CPS earnings in our sample are reported with error.[57]

C.3 Survey of Income and Program Participation (SIPP)

All raw SIPP files were downloaded from
http://data.nber.org/data/survey-of-income-and-program-participation-sipp-data.html,
and were imported using the posted dictionary files.

Child care costs To examine heterogeneous employment effects by child care costs in Section 4.3, we obtain state-level estimates of weekly child care costs using responses from topical modules in Wave 3 of the 1990, 1991, and 1993 SIPP panels, and Wave 6 of the 1992 SIPP panel. In each of these topical modules, households were asked to report the type of care and weekly cost of child care for each of the three youngest children under age 15. These data have been used to measure child care costs in many previous studies, such as Anderson and Levine (2000).

We construct three measures of household child care costs for children up to age three. These include the (unconditional) average cost of care, the cost of care conditional on having a positive cost, and the share of children for whom there was zero cost. In cases were child care costs were reported for multiple children, we assigned the average cost of care to each child. We then collapsed these three measures to the state-level using SIPP weights. We dropped households in states that are not individually identified in the SIPP.[58]

Marital histories To examine post-birth marriage rates in Section 3.1, we use the reported marital and fertility histories in Wave 2 of the 1990, 1993, 1996, 2001, 2004, and 2008 panels, and Wave 1 of the 2014 panel. Importantly, each of these surveys asks about year of first birth and year of first marriage, which allow us to identify mothers that were never-married at first birth. The survey also asks about subsequent marriages, which allows us to determine the share of mothers that remain never-married in each year after birth.

[57] See Abowd and Stinson (2013) for a discussion of possible sources of discrepancies between self-reported earnings and administrative records.

[58] These states include: Maine, Vermont, Iowa, North Dakota, South Dakota, Alaska, Idaho, Montana, and Wyoming.

D Appendix to Section 4

Elasticity calculation To translate our impacts on employment into an elasticity of employment to labor earnings, we need to scale the 5.9% change in employment by the percent change in average EITC benefits between early- and late-exposed mothers. We calculate this latter change, we using EITC benefit schedule for early- and late-exposed mothers weighted by the post-birth earnings distribution of late-exposed never-married mothers (see Appendix Figure A.6), and assign non-workers either (i) the change in benefits in the phase-in region; (ii) the average change in benefits in the phase-in and flat regions; or (iii) the average change in benefits among all workers, in a similar spirit to Kleven (2019). This produces a 10.9%, 9.9% and 8.2% change in average EITC benefits, respectively, and a range of elasticities between 0.54 ($\frac{5.9}{10.9}$) and 0.72 ($\frac{5.9}{8.2}$).

Heterogeneity by child care costs and state-level EITCs In these analyses, we use observed variation across states in child care costs or work incentives. Because these features of states are not randomly assigned, we view this evidence as only suggestive.

First, we examine whether impact of work incentives varies with childcare costs. The predicted sign of this interaction is ambiguous: additional income from the EITC could be particularly important for the employment of mothers with high costs of care, or could be most effective in areas where mothers have access to low-cost care. Using the SIPP, we construct three state-level measures of early child care costs for children: the average weekly cost of child care, the average weekly cost conditional on paying for care, and the share of children with zero care costs (e.g., using relatives for care).[59,60]

Appendix Table A.9 shows that early-exposure has a larger impact on employment in higher cost areas (columns 2–3), but also in areas with a higher share of children receiving free care (column 4). While the latter result may seem unintuitive, we suspect that this may reflect greater use of relatives for child care in areas with higher costs. In support of this, we find a positive correlation between all of our child care cost measures. Thus, these results are potentially consistent with a larger impact of work incentives in high-cost areas. However, we acknowledge that it is difficult to interpret our current measures of childcare costs.

Second, we consider whether the impacts of the EITC reform are larger in states that have a supplementary EITC.[61] Columns (1) and (3) of Appendix Table A.10 show that, on average, post-birth employment does not vary with the presence of a state EITC supplement (column 1) or with the generosity of the supplement (column 3). This may reflect the small number of EITC's during the early 1990s, or the lack of salience of these benefits. However, we find that early-exposed mothers' employment increases more in states that have an EITC supplement (column 2) or have

[59] We have slightly fewer observations for these analyses because the SIPP does not identify the state of residence for households in small states.

[60] See Appendix C.3 for further information on the SIPP data.

[61] We obtain information on state EITC supplements from https://users.nber.org/~taxsim/state-eitc.html. Supplementary EITC's are typically set as a percentage of the federal EITC; thus, a mother living in a state with a supplement is eligible for a more generous credit, and can expect a larger increase in her credit after a federal reform.

a more generous EITC supplement (column 4). This is consistent with early-exposed mothers' responding to the generosity of work incentives after the EITC reform.

E Appendix to Section 6

Role of growth in hours in medium-run results We now ask: how much of the growth in the earnings advantage from the short-run to the medium-run (7% to 17%) can be explained by the growth in weekly hours over that time? As a back-of-the-envelope estimate, we scale up our short-run impacts on earnings by the medium-run growth in labor supply to get a "predicted effect" on medium-run earnings. This yields that early-exposed mothers' earnings advantage would be expected to grow from 7% to 11.3% based on growth in any employment $[7\% \cdot (1 + \frac{(5.5-3.4)}{3.4})]$, and to 10.7% based on growth in weekly hours $[7\% \cdot (1+\frac{(3.3-2.16)}{2.16})]$. As a fraction of the 10% actual change, this implies that 37% to 43% of the earnings growth from the short-run to the medium-run can be explained by changes in hours of work. Hence, 63% of the medium-run earnings growth could be due to wage growth (e.g., due to higher wages associated with full-time work).

Impacts on "high earnings" and "high experience" We begin by providing further justification and detail about the variables that we use in this analysis. As discussed in the text, we measure "high earnings" using an indicator for being in the top 25% of the earnings distribution of all mothers, defined in each year since first birth. We use this measure because early exposure has a larger and more precise effect on being in the top 25% of earnings in the long-run than being in the top 75% or top 50% of the earnings distribution (see Panel A of Appendix Table A.20). Thus, we consider this to be the best proxy for the impacts of early exposure. As also discussed in the text, we measure "high experience" using an indicator for whether a mother worked in the first three years after her first birth. To construct this variable, we create a measure of "potential experience" which is equal to one's actual total experience for $\tau \leq 0$, increases by one in each year for $1 \leq \tau \leq 3$, and increases by 1 in each year that a mother works for $\tau > 4$. We then define a mother as having "high experience" if her actual experience is equal to her potential experience.

Next, we describe the calculation justifying our claim that the share of low-experience mothers with high earnings does not change with early exposure. To calculate the share of early-exposed mothers with "low-experience", we sum from Appendix Table A.21 the mean share of never-married women with low experience (0.021 + 0.310) and the impact of early exposure on being low experience (-.009 + 0.127). This gives 19.5%. We then calculate the share of early-exposed mothers with "high earnings and low experience" as the mean share of this group plus the effect of early exposure (0.02-0.009), which is 1.2%. The ratio of these two numbers gives that 6.2% of early-exposed mothers with low experience have high earnings. Among all never-married mothers, this ratio is 6.3% ($\frac{0.02}{0.02+0.31}$) based on the means in Appendix Table A.21. Thus, this ratio is not higher for early-exposed mothers.

Finally, we consider the sensitivity of our results to instead measuring "high experience" using an indicator of whether an individual is in the top 75% of the experience distribution of all mothers, defined in each year since first birth. We focus on the top 75% of experience because Appendix Table A.20 shows that early exposure has a larger and more precise effect on being in the top 75% of experience in the long-run than being in the top 25% or top 50% of the experience distribution.

On average, this is a higher threshold for "high experience": it includes just 58% of never-married mothers, compared to 67% using the "worked 3 years after first birth" variable.

In line with our main results, Appendix Table A.22 shows that we also find increases in the probability of being "high earning and high experience" and no effect on being "high earning and low experience" with this measure. We also find no change in the share of low experience mothers with high earnings (using the calculation described above). Interestingly, as a share of the additional early-exposed mothers that have high experience (the sum of columns 1 and 3), 40 to 63% end up being "high earning" across the DD and DDD. This is much higher than the share in our main results (20%), which is consistent with the fact that this is a higher threshold of experience.

F Appendix to Section 7

F.1 Decomposition of EITC benefits

In this section we show how we can decompose simulated EITC benefits into the mechanical and behavioral effects described in Section 7. First, we introduce a bit of notation for convenience.

For each year from first birth τ, the mean EITC credit for early- and late-exposed mothers can be written as a weighted sum of benefits in the phase-in region, i.e., earnings times the phase-in credit rate ($y_i \cdot r_{pt}$); benefits in the flat region, i.e., the maximum benefit (M), and the benefits in the phase-out region, i.e., the maximum credit minus the difference between earnings minus the minimum earnings for the phase-out times the phaseout credit rate ($M - (y_i - \overline{y}) \cdot r_o$). The weights for this sum are the share of mothers in each region. For example, for early-exposed mothers:

$$\begin{aligned}\overline{E_{early}} =& \frac{1}{N}\left[\sum_{i\in p} y_i \cdot r_p + \sum_{i\in f} M + \sum_{i\in o}(M - \underbrace{(y_i - \tilde{y})}_{\text{define as } \overline{z_o}} \cdot r_o\right] \\ =& \underbrace{\frac{N_p}{N} \cdot r_p \cdot \overline{y_p}}_{\text{Phase-in}} + \underbrace{\frac{N_f}{N} \cdot M}_{\text{Flat}} + \underbrace{\frac{N_o}{N}(M - r_o \cdot \overline{z_o})}_{\text{Phase-out}}\end{aligned}$$

To differentiate between early- and late-exposed mothers, we denote the EITC parameters (r_p, $\tilde{y}$, r_o, M) for early-exposed mothers, and as (r'_p, $\tilde{y}'$, r'_o, M') for late-exposed mothers. Thus, the mean EITC benefit for late-exposed mothers is:

$$\begin{aligned}\overline{E_{late}} =& \frac{1}{N'}\left[\sum_{i\in p} y'_i \cdot r'_p + \sum_{i\in f} M' + \sum_{i\in o}(M' - (y'_i - \tilde{y}') \cdot r'_o\right] \\ =& \underbrace{\frac{N'_p}{N'} \cdot r'_p \cdot \overline{y_p}'}_{\text{Phase-in}} + \underbrace{\frac{N'_f}{N'} \cdot M'}_{\text{Flat}} + \underbrace{\frac{N'_o}{N'}(M' - r'_o \cdot \overline{z_o}')}_{\text{Phase-out}}\end{aligned}$$

For simplicity, we set these as the EITC parameters corresponding to $t = 1994 + \tau$ or $t = 1989 + \tau$, for early- and late-exposed mothers, respectively. These will be slightly different than the true EITC parameter experienced by a mother, but is a convenient assumption for our decomposition.

Using a standard Oaxaca-type decomposition strategy, we can write the difference in EITC benefits between early- and late-exposed mothers as a function of two parts. The first "behavioral" difference gives the difference in EITC benefits based on the gap in labor supply, holding constant the early-exposed EITC schedule. The second "mechanical" difference gives the difference in EITC benefits based on the gap in generosity, holding constant the late-exposed labor supply.

$$
\begin{aligned}
\overline{E_{early}} - \overline{E_{late}} = & \\
& \underbrace{(\frac{N'_p}{N'} \cdot \overline{y_p}') \cdot (r_p - r'_p)}_{\text{Mechanical}} + \underbrace{(\frac{N_p}{N} \cdot \overline{y_p} - \frac{N'_p}{N'} \cdot \overline{y_p}') \cdot r_p}_{\text{Behavioral}} \\
& + \underbrace{\frac{N'_f}{N'} \cdot (M - M')}_{\text{Mechanical}} + \underbrace{(\frac{N_f}{N} - \frac{N'_f}{N'}) \cdot M}_{\text{Behavioral}} \\
& + \underbrace{\frac{N'_o}{N'} \cdot (M - M')}_{\text{Mechanical}} + \underbrace{(\frac{N_o}{N} - \frac{N'_o}{N'}) \cdot M}_{\text{Behavioral}} \\
& - \underbrace{(\frac{N'_o}{N'} \cdot \overline{z_o}') \cdot (r_o - r'_o)}_{\text{Mechanical}} - \underbrace{(\frac{N_o}{N} \cdot \overline{z_o} - \frac{N'_o}{N'} \cdot \overline{z_o}') \cdot r_o}_{\text{Behavioral}}
\end{aligned}
$$

Thus, the overall treatment effects that we estimate in Section 7 give the sum of the "behavioral" and "mechanical" elements in this equation. Then, the "behavioral" treatment effect is the sum of the "behavioral" terms, and the "mechanical" treatment effect is the sum of the "mechanical" terms.

F.2 Calculation of Average Tax Rate

In Section 7, we estimate the effect of early exposure to the EITC expansion on federal income tax revenue. This requires an estimate of the average tax rate for the additional dollars earned by early-exposed mothers in the short-, medium-, and long-run. In this section, we explain how we calculate this tax rate.[62]

The average tax rate, $\rho_{avg,\tau}$ paid on the additional earnings of early-exposed mothers in each year from first birth τ is a function of the additional share of women at each level of earnings multiplied by the taxes owed at each level of earnings. In particular, if we discretize the earnings distribution, $\rho_{avg,\tau}$ is:

$$\rho_{avg,\tau} = \frac{\sum_j \rho_{j,\tau} \cdot z_j \cdot \Delta f_{j,\tau}}{\sum_j z_j \cdot \Delta f_{j,\tau}}$$

where j denotes a discrete value of earnings. For our purposes, j will be a bin of earnings. $\rho_{j,\tau}$ is the average tax rate for the bin with average earnings equal to z_j; and $\Delta f_{j,\tau}$ is the difference in the earnings density between early and late-exposed mothers for bin j. Our goal is to estimate an average ρ_{avg} for the short-, medium-, and long-run.

First, we use the coefficients from our distributional regressions (i.e., Figures 3, A.7 and A.13) to generate estimates of $\Delta f_{j,\tau}$. Recall that the distributional regressions give estimates of the difference in the cdf of earnings between early- and late exposed mothers for the short-, medium-, and long-run.[63] In particular, we have estimates of $Pr(Y > y)^{early} - Pr(Y > y)^{late}$ for $y \in \{0, 2500, ...100000\}$. We can use these estimates to obtain $\Delta f_{j,\tau}$ for \$2,500 bins of earnings. To do so, we take the difference between the distributional estimates for two sequential y. For instance, the change in the density of earnings between \$5,000 and \$7,500 is equal to the difference between the change in the cdf at $y = 7500$ and $y = 5000$.[64]

Second, we obtain an estimate of $\rho_{j,\tau}$ for each bin from NBER TAXSIM (Feenberg and Coutts, 1993). In particular, we obtain $\rho_{j,t}$ for calendar year t as the "Income Tax Before Credits" (for a head of household with one dependent) divided by z_j. We calculate this for each z_j in each calendar year. We then take averages over calendar years to obtain $\rho_{j,\tau}$.

Third, combining the inputs from the previous two steps, we calculate ρ_{avg} for the short-,

[62] Another approach would be to calculate taxes directly for each mother using TAXSIM, however TAXSIM is not available to be used from the SSA data center.

[63] We use the same estimates for all τ within the short-, medium-, and long-run.

[64] E.g.,

$$[Pr(Y > 5000)^{early} - Pr(Y > 5000)^{late}] - [Pr(Y > 7500)^{early} - Pr(Y > 7500)^{late}]$$

$$= [\Pr(Y{>}5000)^{early} - Pr(Y > 7500)^{early}] - [Pr(Y > 5000)^{late} - Pr(Y > 7500)^{late}]$$

$$= \Pr(7500 \geq Y > 5000)^{early} - Pr(7500 \geq Y > 5000)^{late}$$

$$= \Delta f_{7500>y>5000}$$

medium, and long-term. For instance, for the long-run, this is equal to:

$$\rho_{avg}^{long-run} = \frac{\sum_{\tau=10}^{\tau=19} \sum_j \rho_{j,\tau} \cdot y_j \cdot \Delta f_{j,\tau}}{\sum_{\tau=10}^{\tau=19} \sum_j y_j \cdot \Delta f_{j,\tau}}$$

where j denotes \$2,500 bins of earnings.[65] We obtain average tax rates that range from 0–0.04, 0.05–0.07, and 0.13–0.14, for the short-, medium-, and long-run, respectively, using the DD and DDD distributional estimates. We use the minimum of the tax rate for each period to calculate tax revenue: 0, 0.05, and 0.13.

Note that because we only calculate tax rates for late-exposed mothers, our estimated increase in tax revenue does not take into account any changes in the progressivity of the tax schedule over time (i.e., between early- and late-exposed mothers.) The advantage of holding tax rates fixed is that it allows greater transparency into these calculations.

[65] Since we estimate our distributional regressions over groups of τ, in practice we only have one value of $\Delta f_{j,\tau}$ for the short-, medium-, and long-run (each).

F.3 Government Transfers

In Section 7 we estimate the impact of work incentives on government transfers using information on self-reported income from various government programs from the CPS. In particular, we analyze government transfers to a woman's family from the following 5 programs, and total benefits as the sum of benefits from these five categories:[66]

1. Food stamps: household value of food stamps (*hfdval*)
2. Welfare: family value of welfare (*fpawval*)
3. Disability: family disability income (*fdisval*)
4. Medicaid: family fungible value of Medicaid (*ffngcaid*)
5. Housing subsidy: family market value of housing subsidy (*fhoussub*)

Several caveats apply to this analysis. First, program participation is increasingly underreported in the CPS, which implies that early-exposed mothers are likely to underreport transfers more than late-exposed mothers (Meyer et al., 2015). Second, married mothers have much lower rates of program participation than never-married mothers, which makes them a less useful comparison group for these outcomes. Third, we expect welfare reform to mechanically lead to a reduction in benefit dollars. Because we do not have controls for the potential duration of benefits or dollar amounts, our estimates will likely partly reflect this mechanical change. Finally, the value of housing subsidy is missing for the 1991 CPS, and the value of Medicaid is missing for the 1991 and 2012+ CPSs. The missing data in 1991 makes it such that we have little information on late-exposed mothers in the first couple of years after birth, and that the differential effects for early-exposed mothers are estimated only in post-birth years 3 and 4. The missing data after 2011 makes it such that we have little information on early-exposed mothers in the long-run, and that their differential effects are estimated only in some of the long-run years.

For these reasons, we interpret our estimates of the impact of early-exposure on transfers in Appendix Table A.25 with caution. The reasoning above suggests that these estimates are likely to be an upper bound on the (absolute) decline in transfers, which leads us not to incorporate this into our baseline MVPF estimates.

[66] We use household information for food stamps, as family food stamp information is not collected in the 1991 CPS. Note that we observe 1 unique woman in 99.9% of households, so the risk of double counting food stamp receipt because of multiple treated women in the same household is minimal.