

Are Parental Welfare Work Requirements Good for Disadvantaged Children?

Evidence from Age-of-Youngest-Child Exemptions

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Introduction and Motivation

- Steady rise in women's labor force participation rate
 - From 43% in 1970 to 59% in 2010
- Larger increase for unmarried mothers with children ages 0-5
 - From 44% in 1980 to 68% in 2009
- Welfare reform is responsible for some of this increase
- Raises questions about the impact of early maternal employment vis-a-vis welfare reform on child well-being
 - Work requirements are of particular interest
- What is the impact of work-requirement-induced increases in early maternal employment?

Introduction and Motivation

- Difficult question to answer
 - Welfare reform is a bundle of policy reforms
 - It is a challenge to empirically untether work requirements
- Very few welfare reform papers examine child outcomes
 - One examines the impact of work requirements on direct measures of development for pre-school-age children (Washbrook, Ruhm & Waldfogel, 2011)
- Large literature studying the direct relationship between early maternal employment and child development
 - Economically diverse samples of children
 - Selection into employment is difficult to overcome

This Paper

- Exploit states' age-of-youngest-child exemptions (AYCEs)
 - Welfare recipients are exempt until youngest child reaches a certain age
 - Large cross-state variation in amount of time spent in maternal care
 - Different AYCE time allotments depending on child's birth-order
- Instrumental variable for early maternal employment
 - Number of months remaining in mothers' exemption from the welfare work requirement
- Early Childhood Longitudinal Study (ECLS-B)
 - Large sample of children born in 2001 and followed until kindergarten
 - IV: Each month of maternal work \rightarrow 0.08 *SD* reduction in test scores

Outline

- Introduce the ECLS-B analysis sample
- OLS estimates on early maternal work
- Description of states' AYCEs
- Construction of the instrumental variable
- Results
- Wrap-up

- Early Childhood Longitudinal Study, Birth cohort (ECLS-B)
 - Nationally representative sample of 11,000 children born in 2001
 - 9-month wave of data collection (N=8,558)
- Definition of welfare-eligible and -ineligible families
 - Eligible: mothers with < BA or those who are unmarried (N=6,207)
 - Ineligible: mothers with => BA and those who are married (N=2,351)
- Primary outcome
 - Scale score on 9-month Bayley Short Form-Research Edition (BSF-R) test
 - Memory, preverbal communication, problem solving, & concept attainment
- Measures of early maternal employment
 - =1 if mother ever worked since the focal child's birth
 - Cumulative employment since childbirth

Summary Statistics: Welfare-Eligible Sample

Variable	Any Maternal Work	No Maternal Work
Child's 9-month BSF-R Score	75.38	73.84*
Mother is a high school drop-out (%)	0.197	0.331*
Married is married (%)	0.536	0.623*
Previous live births (no.)	1.114	1.330*
WIC participation (%)	0.648	0.689*
Child is low birth weight (%)	0.257	0.296*
Child is premature (%)	0.106	0.139*

Note: * indicates group means are statistically significantly different at 10% level

OLS Model

Child production function:

$$\ln(A_{is}) = \beta_1 WORK_{is} + \mathbf{X}'\beta + \mathbf{Z}'\nu + \mu_{is},$$

where:

$\ln(A)$: log of child's 9-month scale score on the BSF-R

$WORK$: any or cumulative maternal employment

\mathbf{X}' : pre- or at-birth child and maternal characteristics

\mathbf{Z}' : region-of-birth indicators and state-level controls

Estimated on welfare-eligible and -ineligible subsamples

Standard errors clustered on date-of-assessment cells

OLS Estimates on *WORK*

Variable	Any Work (1)	Cumulative Work (2)
Welfare-eligible subsample: <i>WORK</i>	0.0061*** (0.0010)	0.0006*** (0.0001)
Welfare-ineligible subsample: <i>WORK</i>	0.0043 (0.0052)	0.0005 (0.0006)
Child/family controls	Yes	Yes
Region-of-birth indicators	Yes	Yes
State-level controls	Yes	Yes

Age-of-Youngest-Child Exemptions (AYCEs)

- States are given the authority to establish AYCE allotments
 - 0 months in 4 states
 - 1 to 11 months in 19 states
 - 12+ months in 28 states
- Three types of AYCEs
 - Standard: Mother is exempt until the child reaches a certain age
 - Birth-order: different AYCEs are granted depending on child's birth-order
 - First child is given largest allotment; subsequent children are given smaller allotments
 - Lifetime: Pot of exempt time that can be spent on multiple children
 - Constraints on maximum time that can be spent on a given child
 - After lifetime allocation is spent, AYCE becomes zero for subsequent children

Age-of-Youngest-Child Exemptions (AYCEs)

Summary of States' AYCE Provisions for 2001

State	Type of AYCE	Baseline AYCE	AYCE for Higher-Order Births	Lifetime AYCE
Arizona	Standard	0 months	0 months	--
Massachusetts	Standard	24 months	24 months	--
California	Birth-order	12 months	0 months	--
Washington	Lifetime	4 months	--	12 months

Instrumentation

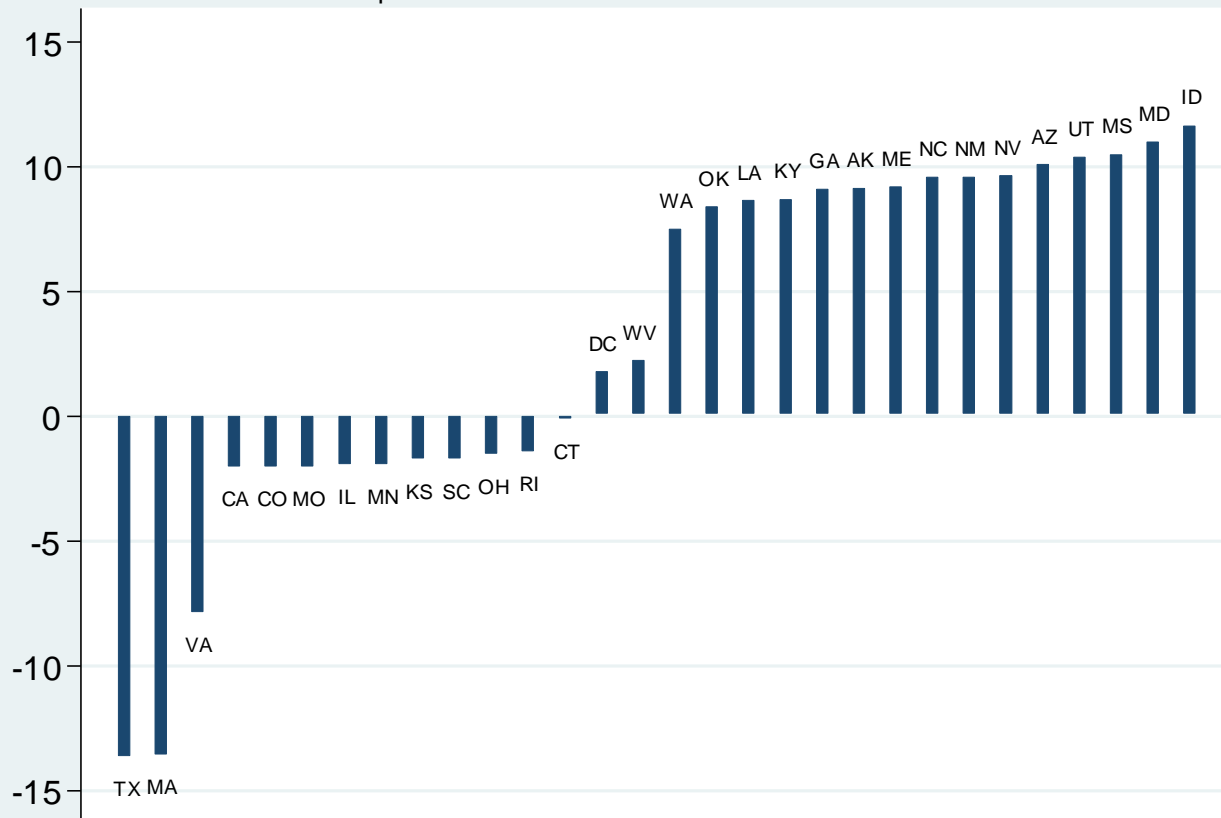
Construction of IV (*EXEMPT*) for *WORK*

Type of AYCE	Number of States	Calculation of <i>EXEMPT</i>
Standard	34	child's age-at-assessment – AYCE allotment
Birth-Order	14	child's age-at-assessment – (AYCE birth-order)
Lifetime	3	child's age-at-assessment – (max(AYCE) < limit)

- Number of months remaining in the AYCE, relative to the child's age
- Increases in *EXEMPT* interpreted as reductions in AYCE allotment
- Negative values: time remaining; Positive values: time exhausted
- Identification comes from three sources of variation
- Median: 5.4 months; Min: -16.8 months; Max: 21.8 months

Instrumentation

Figure 2: Remaining AYCE Allotments for Welfare-Eligible Families, by State
Top 15 states: TX to WV. Bottom 15 states: WA to ID

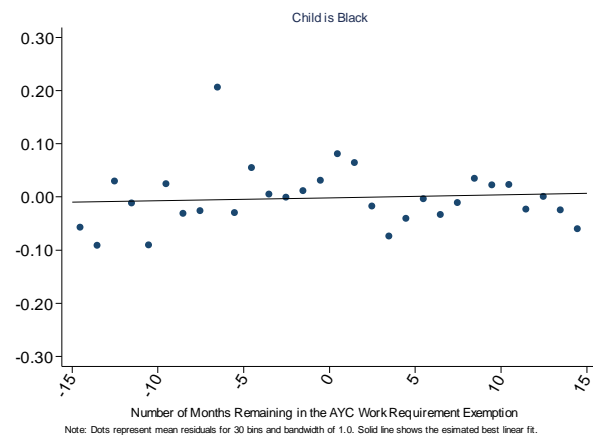
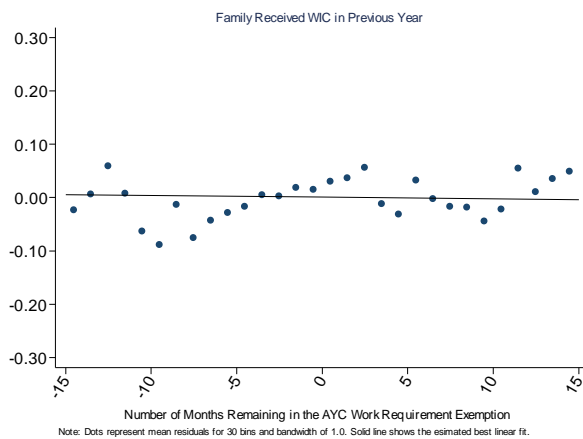
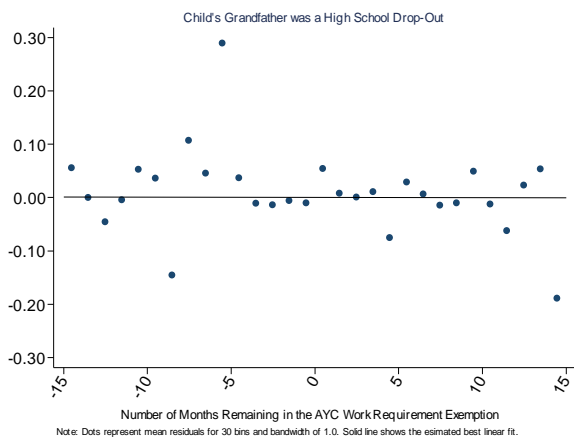
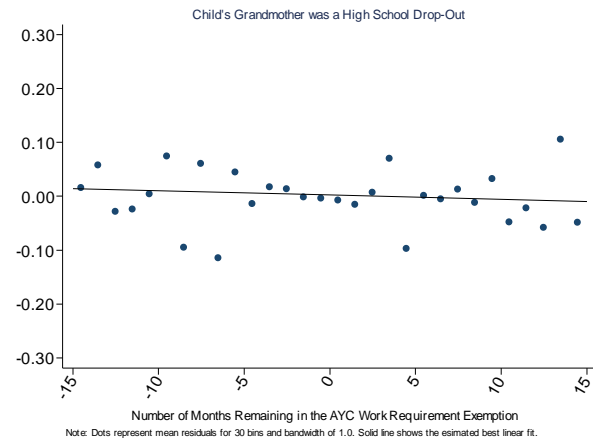
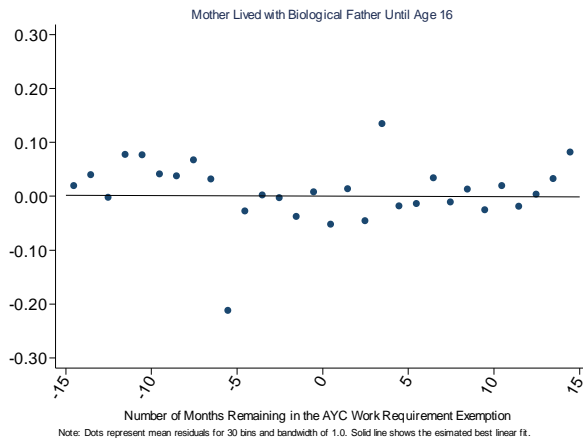
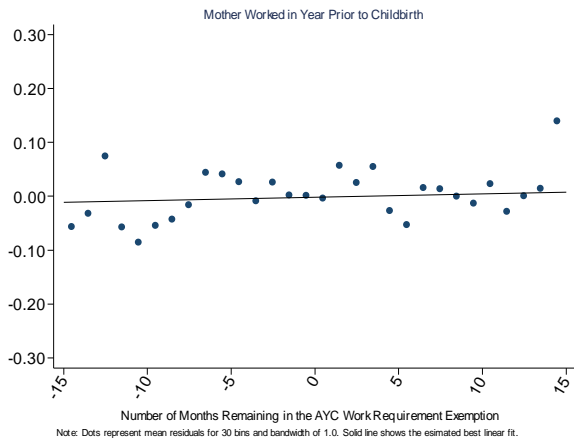


First-Stage Estimates

$$WORK_{is} = \gamma_1 EXEMPT_{is} + \mathbf{X}'\beta + \mathbf{Z}'\mathbf{v} + \varepsilon_{is}$$

Variable	Any Work (1)	Cumulative Work (2)	Any Welfare Receipt (3)
Eligible subsample: <i>EXEMPT</i>	0.0057*** (0.0010) F=31.0	0.0384*** (0.0078) F=24.5	-0.0016*** (0.0005) NA
Ineligible subsample: <i>EXEMPT</i>	0.0024 (0.0021) F=1.3	0.0188 (0.0154) F=1.5	-0.0001 (0.0004) NA
Child/family controls	Yes	Yes	Yes
Region-of-birth indicators	Yes	Yes	Yes
State-level controls	Yes	Yes	Yes

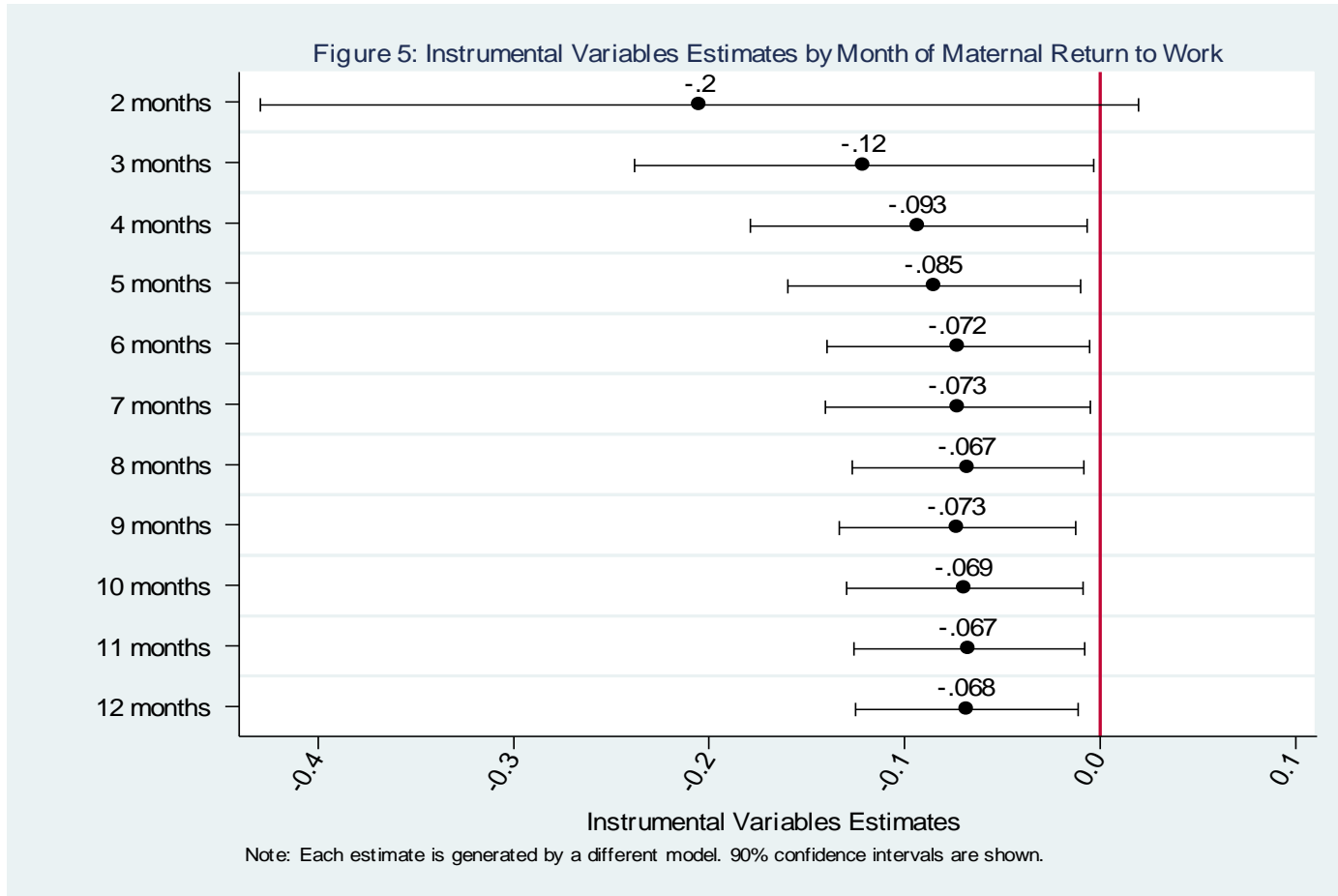
Exogeneity



Reduced Form and IV Estimates

Variable	Reduced Form (1)	IV: Any Work (2)	IV: Cumulative Work (3)
Eligible subsample: <i>WORK/EXEMPT</i>	-0.0004* (0.0002)	-0.0684** (0.0344)	-0.0103* (0.0060)
Ineligible subsample: <i>WORK/EXEMPT</i>	0.0002 (0.0003)	0.0648 (0.1524)	0.0064 (0.0182)
Child/family controls	Yes	Yes	Yes
Region-of-birth indicators	Yes	Yes	Yes
State-level controls	Yes	Yes	Yes

Timing of Maternal Work



Mechanisms

Outcome Variable	Reduced Form (1)	IV: Any Work (2)	IV: Cumulative Work (3)
Income is below FPL	-0.0019** (0.0008)	-0.3214*** (0.1251)	-0.0492** (0.0196)
Maternal CES Depression score	0.0119 (0.0127)	1.980 (1.798)	0.2670 (0.2866)
Mother felt depressed	0.0023* (0.0012)	0.3666** (0.1791)	0.0530* (0.0321)
Child was breast-fed	-0.0023* (0.0013)	-0.4014* (0.2179)	-0.0634* (0.0340)
Child is read to once/week	-0.0019* (0.0010)	-0.3280** (0.1676)	-0.0553* (0.0315)
Cumulative child care use	0.0189* (0.0107)	3.2796** (1.4122)	0.4519* (0.2374)
In child care 3 mos. post-birth	0.0033*** (0.0011)	0.5691*** (0.1761)	0.0781*** (0.0224)

Conclusion

- OLS estimates of early maternal work are biased upward
- IV estimates imply negative effects on child development
- LATE: effect of work-requirement-induced increases in early maternal employment
 - Very policy relevant parameter
- Unintended consequence of U.S.'s move to a work-based safety net
 - May have solved one “problem,” but did we create another one?
- U.S. House Budget Committee's safety net reform proposal
 - Work requirements would become more prevalent

Exogeneity Tests

Variable	Coeff. (Std. Error) on <i>EXEMPT</i>
Mother worked in year prior to birth	0.0016 (0.0011)
Mother attended 16+ prenatal doc. visits	-0.0015 (0.0009)
Grandmother was a high school drop-out	0.0010 (0.0014)
Grandfather was a high school drop-out	0.0013 (0.0010)
Family received WIC in past 12 months	-0.0012 (0.0012)
Child is low birth weight	-0.0002 (0.0008)
Child was born prematurely	0.0002 (0.0010)

Robustness

Specification	Any Work	Cumulative Work
Baseline estimates	-0.0684** (0.0344)	-0.0103* (0.0060)
Omit maternal controls	-0.0648** (0.0328)	-0.0099* (0.0058)
Omit child controls	-0.0710* (0.0410)	-0.0109 (0.0069)
Omit both sets of controls	-0.0732* (0.0378)	-0.0107* (0.0061)