

The Rise of the *In-Work* Safety Net: Implications for Income Inequality and Family Health and Well-being

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Overview

- The U.S. social safety net for lower income families has shifted to one based on *in-work* assistance (welfare reform, EITC expansion)
- This has important implications for labor supply incentives and the distribution of income
- The EITC leads to substantial increases in income for lower income families – against a backdrop of falling wages for low skilled workers
- Here we review what is known about the effects of the EITC on the distribution of income and family and child health

Roadmap

1. Short policy history in the U.S., the EITC
2. Incentive effects of the EITC
3. Effects of the EITC on employment and the distribution of income
4. Effects of the EITC on health and child well-being
5. Conclusion

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Evolution of Antipoverty programs in the U.S.

1930s

Social Security
AFDC
Unemployment
Insurance

Great Society

1960s-1970s

Food Stamps
Medicare
Medicaid
Disability
Civil Rights
Act

1990s

Welfare Reform
Rise of the EITC

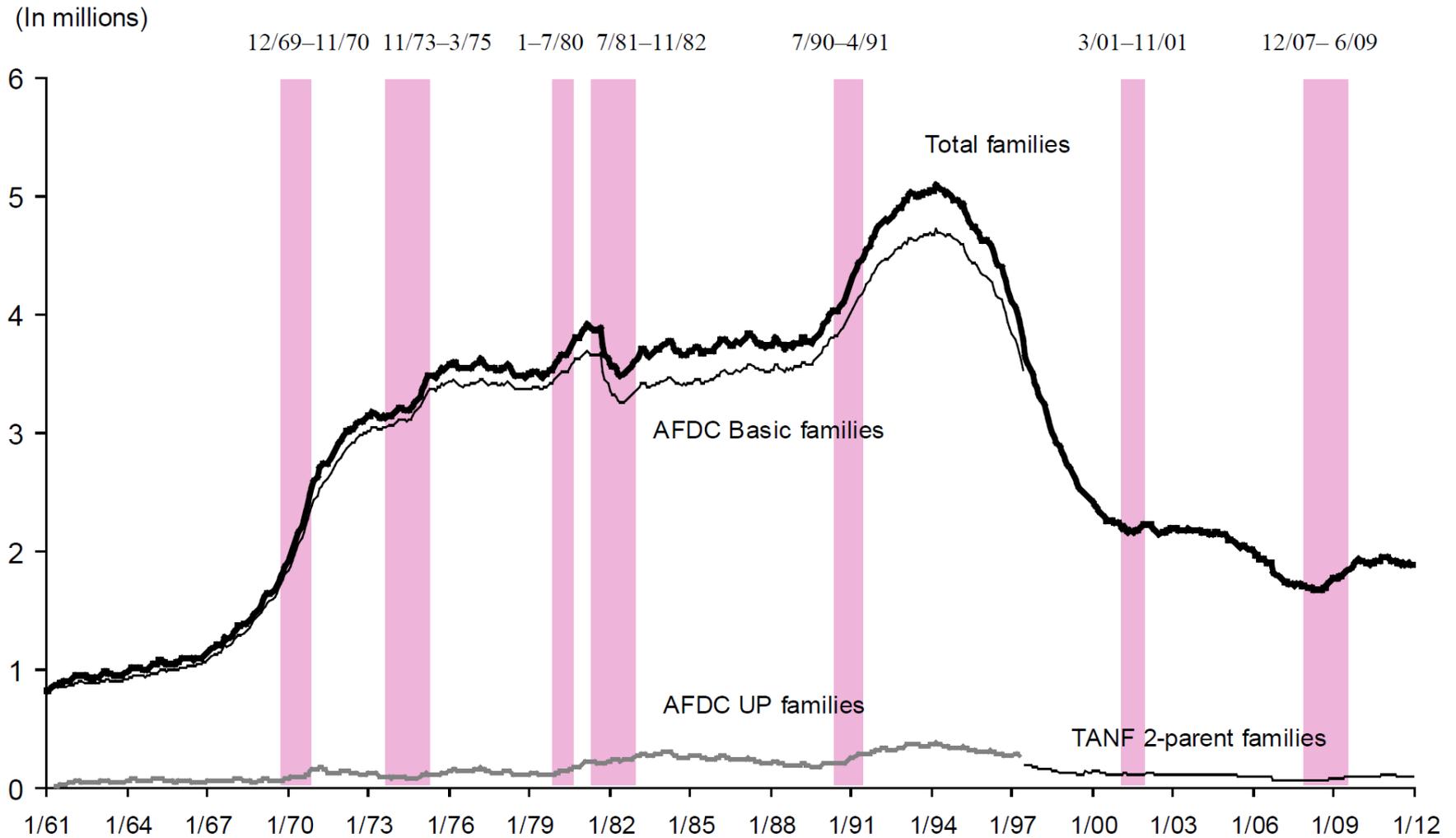
2010

Obamacare

The decline of welfare

- Up until the early 1990s the U.S. relied primarily on *traditional cash welfare*, Aid to Families with Dependent Children
 - The generosity of the program varied across states, but was never funded at a very high level (maximum benefit for average family was never much higher than 40% of poverty)
 - AFDC consisted of a guaranteed income and a high benefit reduction rate (~100%). Eligibility was limited to single mothers.
 - This led to a (longstanding) concern that AFDC discourages work and marriage, and causes long term dependence.
- Federal welfare reform was passed in 1996 which consisted of: lifetime limits for receipt, work requirements, sanctions for noncompliance, and strengthening of work incentives (Temp. Assistance for Needy Families TANF)

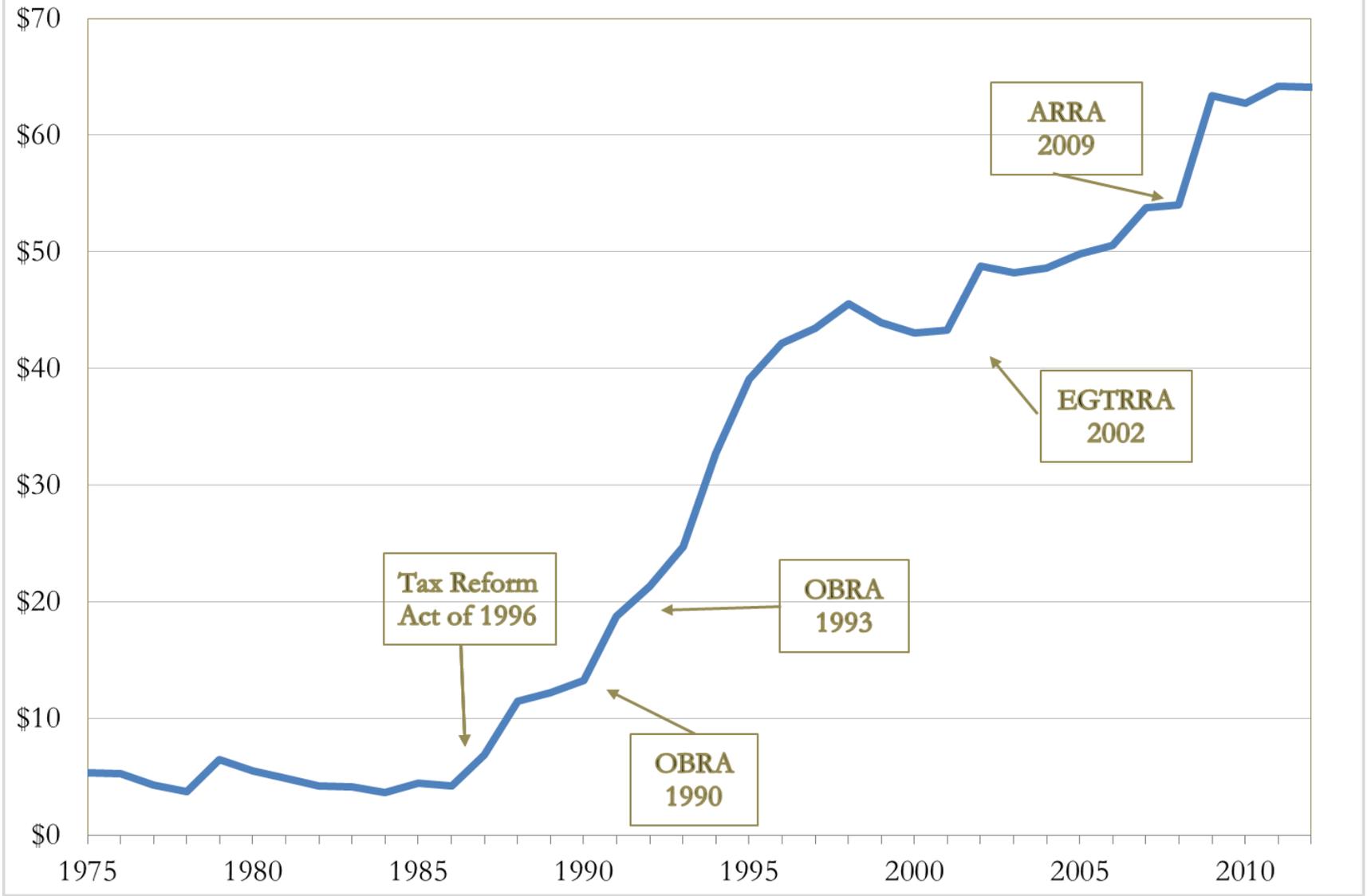
Figure TANF 1. AFDC/TANF Families Receiving Income Assistance



The rise of the EITC

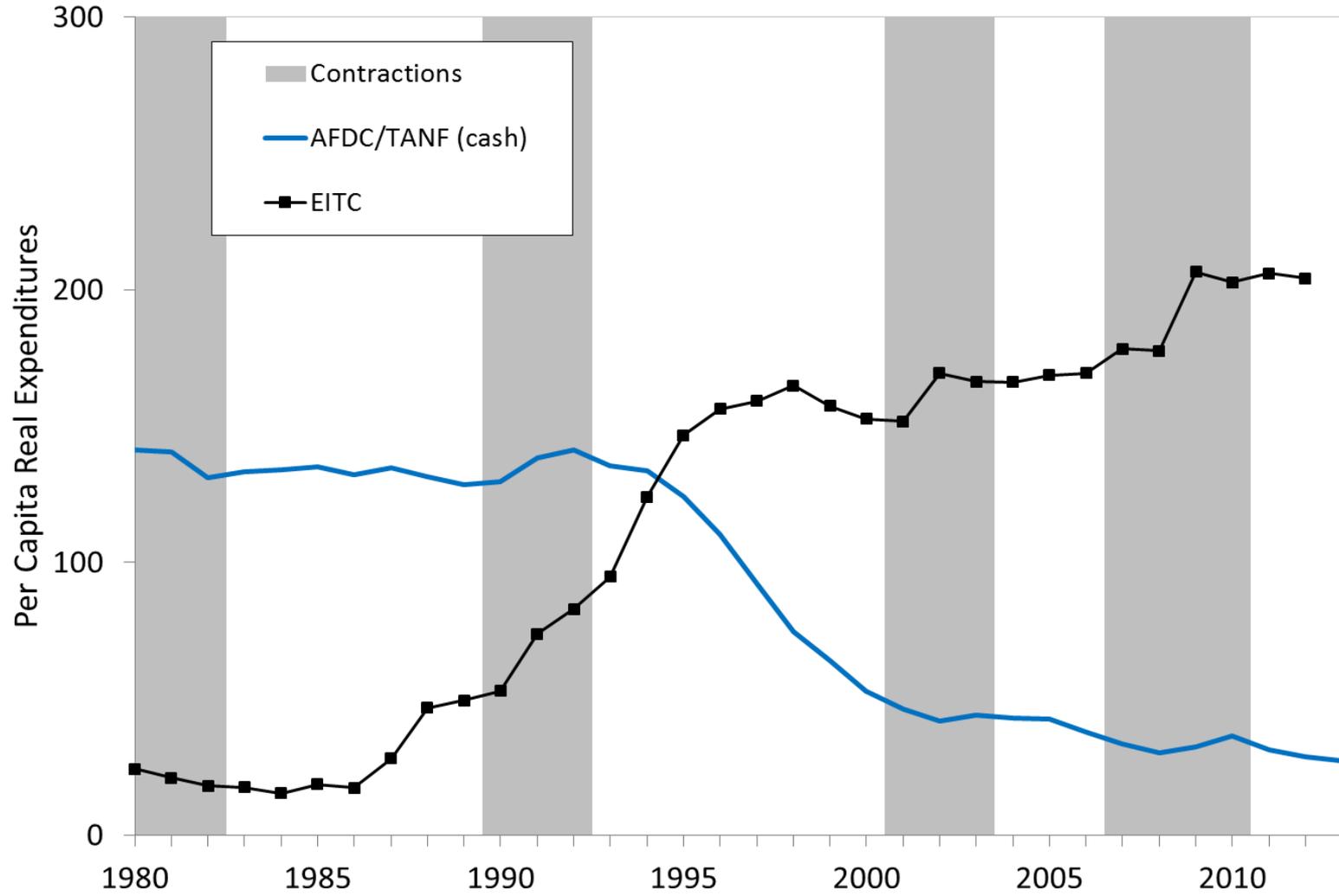
- In-work, tax based assistance
- Refundable tax credit for low income families
- EITC has been expanded through tax acts in 1986, 1990, and 1993 (and smaller expansions in 2001, 2009)
- Must have earned income to be eligible
- Credit varies by number of children (small credit for childless), earnings (and AGI)
- About 60% of EITC filers are single with children, 20% married with children, and 20% childless [but only 2% of \$ go to childless]

EITC, Billions of 2012 Dollars

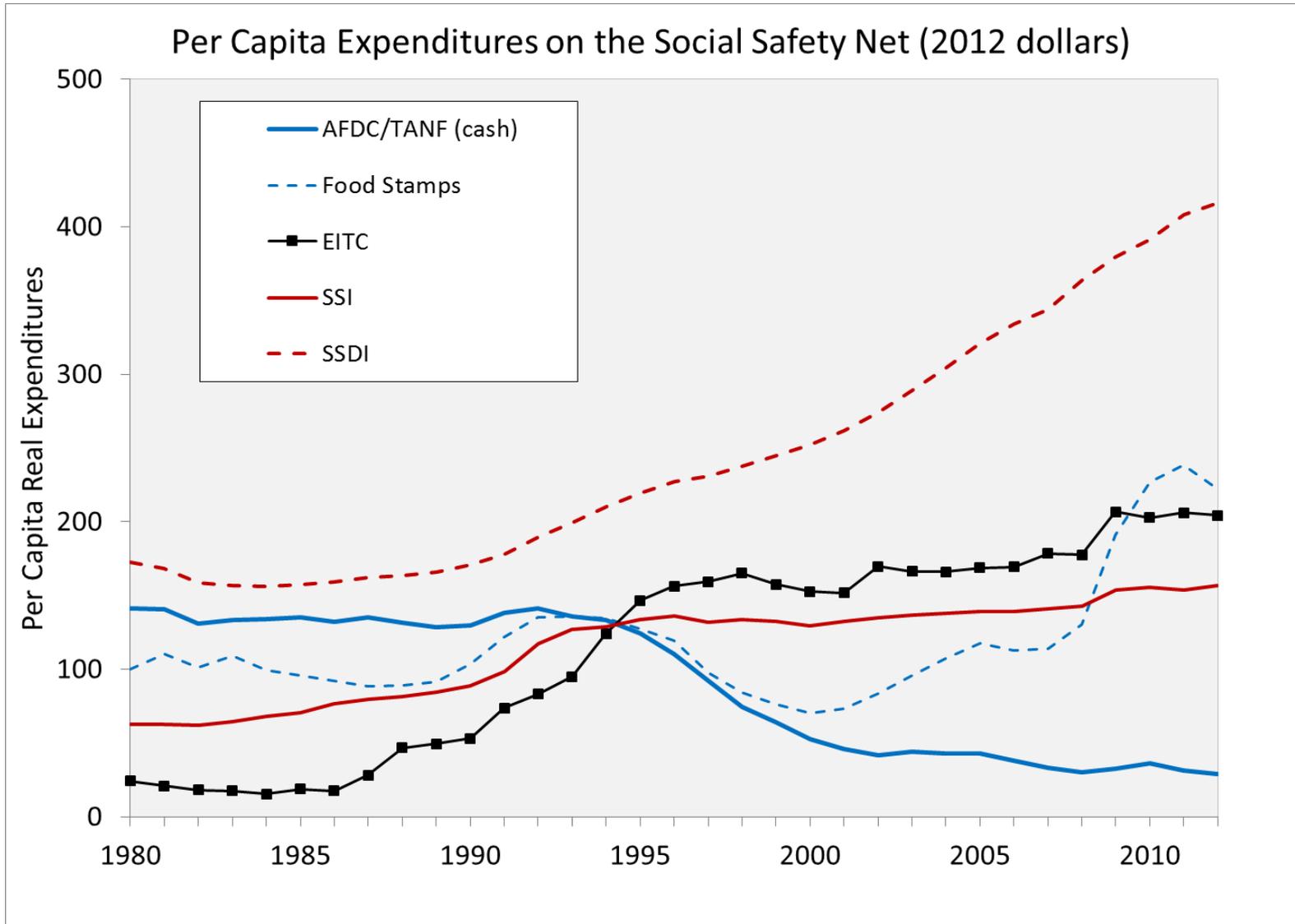


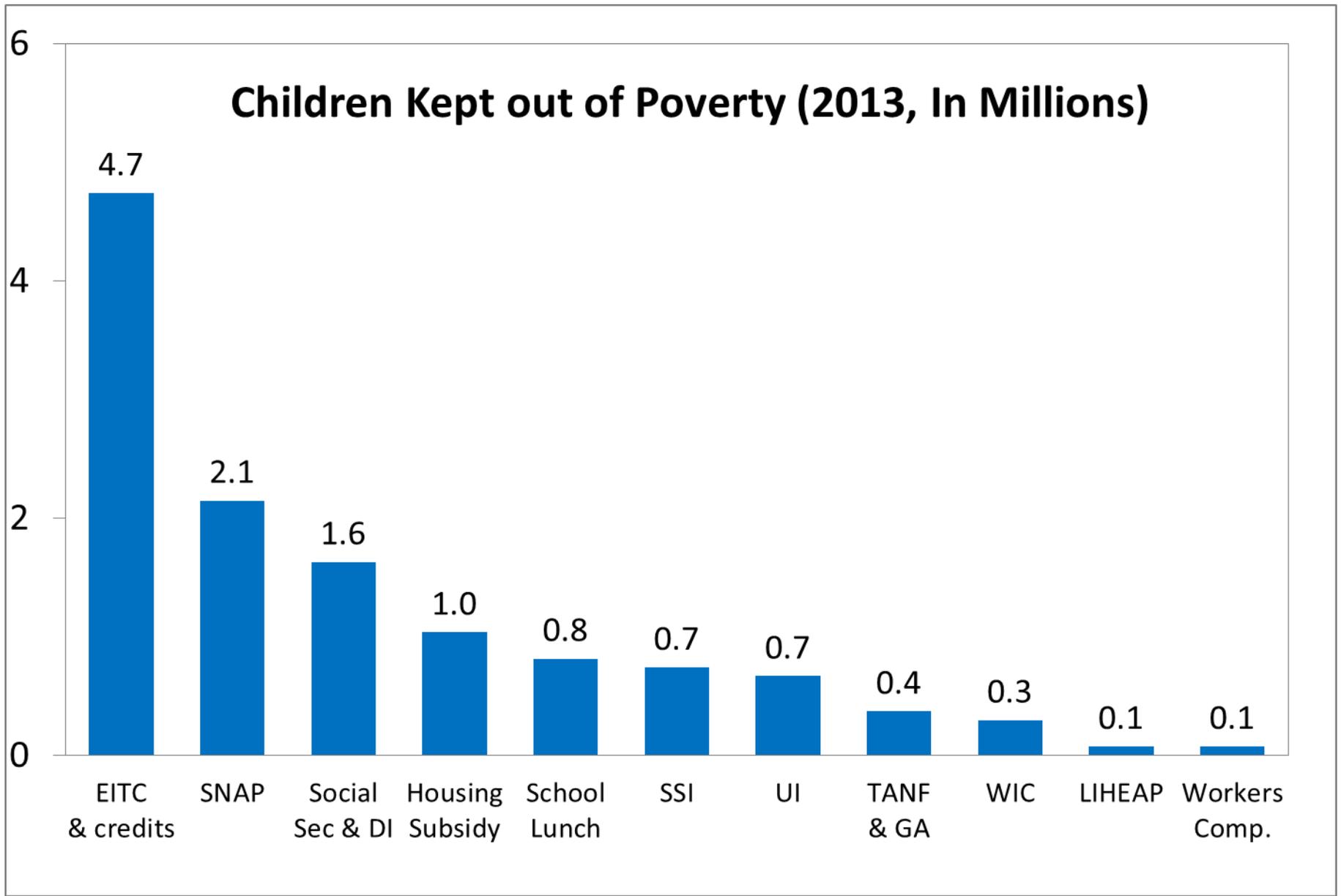
Source: U.S. Department of Health and Human Services *Indicators of Welfare Dependence*.
2013

Per Capita Expenditures on the Social Safety Net (2012 dollars)



How do the EITC and TANF fit into the broader U.S. safety net?





Source: Calculations based on *Supplemental Poverty Measure, 2013* (Kathleen Short), U.S. Department of Census, Current Population Report P60-251.

On net, the U.S. has experienced a tremendous change in the social safety net for low income families with children:

- Decline in the *out-of-work* safety net
- Rise of the *in-work* safety net

In-work benefits are prominent in other settings

- More than half of U.S. states offer “add on” EITCs
- A total of 17 OECD countries have in-work credits
 - Early adopters: UK (1971), US (1975), Ireland (1984)
 - Past 15 years has seen many countries adopting these policies
 - Particularly relevant in the European context is the interest in counteracting the work disincentives in social assistance and unemployment benefit programs

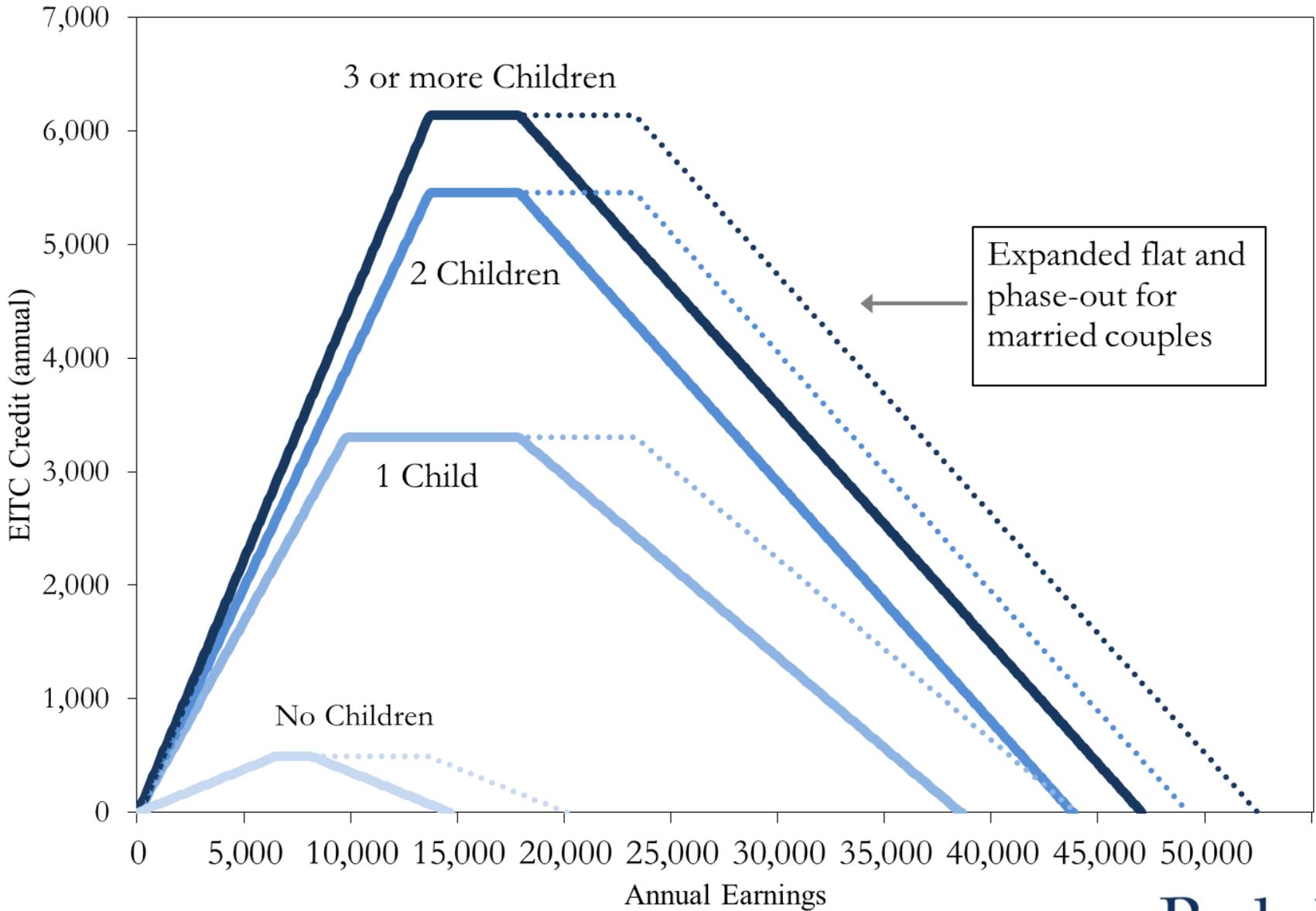
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EITC Eligibility and Benefits

- EITC Eligibility
 - All family types are eligible
 - Primarily provides benefits for those with children
 - Must have earned income; based on family income
- EITC Benefits
 - Phase-in (constant subsidy rate on earnings)
 - Flat
 - Phase-out (constant benefit reduction rate)
- The phase-out rate is relatively low (21%) compared to social assistance benefit reduction rates
- The phase-in rate can get quite high (> 40%)

EITC Schedule 2014



Labor supply incentives

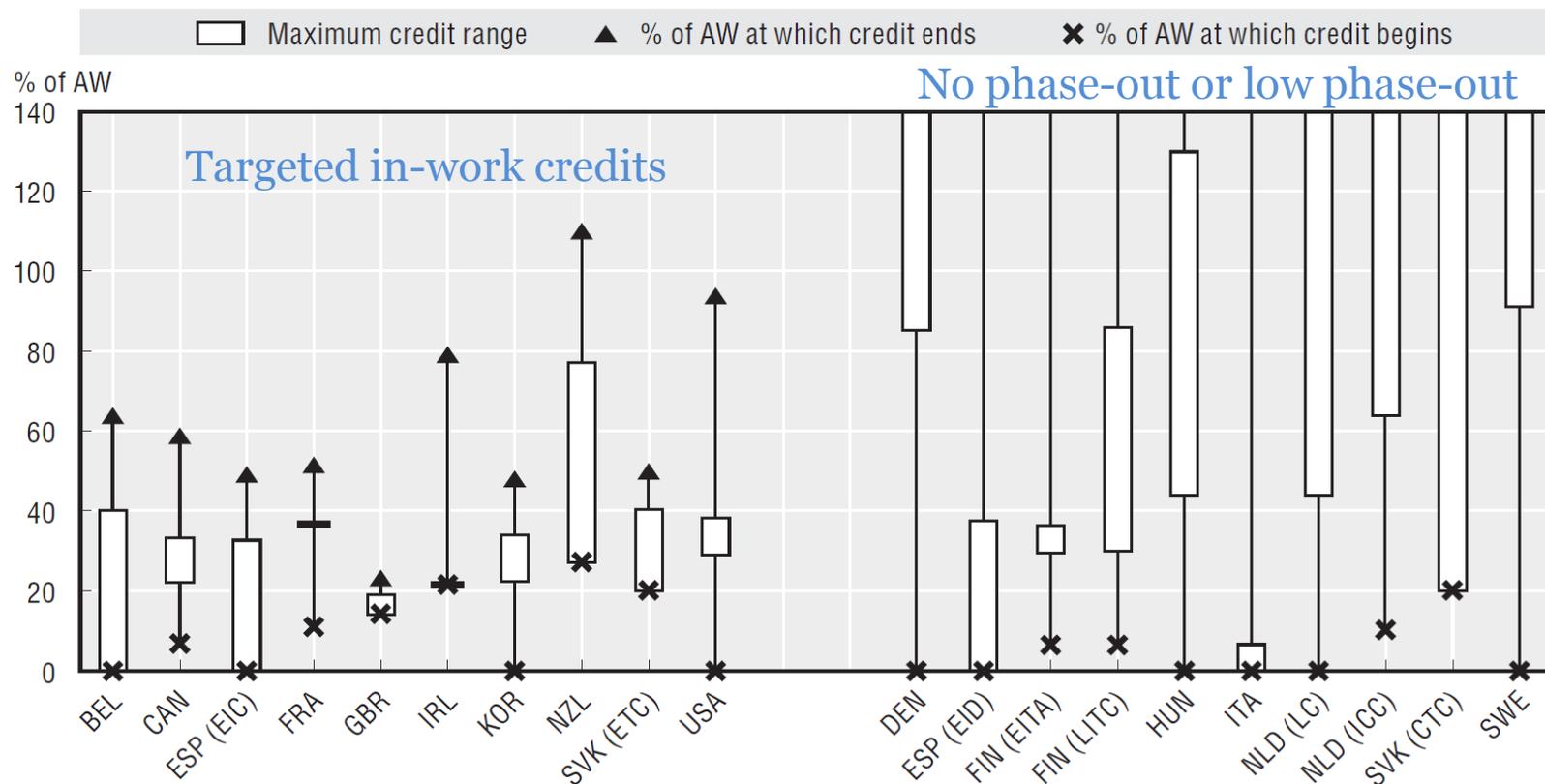
- Due to the conditioning on earnings, employment increases with the EITC
- Earnings conditional on work is ambiguous but on net would be expected to decrease (negative in flat and phase-out, opposing income and substitution effects in phase-in)
 - The intensive margin labor supply incentives are muted due to the (relatively) low phase-out tax rate
- Labor supply predictions are more complicated for married couples; secondary earners may reduce labor supply due to new income transfer to primary earner (both income and substitution effects)
- After tax incomes can increase due to increases in earned income as well as the credit.

EITC in the broader OECD policy context

- The design of an in-work credit will reflect a country's value on the tradeoffs between poverty alleviation and work incentives
- The US credit is one of several with large credits that are more targeted (high withdrawal, high credit) [IRL, UK, BEL, NZ]
- Low withdrawal, low credit [CAN, FR, ESP]
- Low withdrawal, higher credit [DEN, SWE, NLD]

- The design of an in-work credit will reflect a country's value on the tradeoffs between poverty alleviation and work incentives
 - High withdrawal, high credit) [IRL, UK, BEL, NZ] → focus on employment
 - Low withdrawal, low credit [CAN, FR, ESP] → focus on lowering marginal tax rates
 - Low withdrawal, higher credit [DEN, SWE, NLD] → focus on poverty alleviation

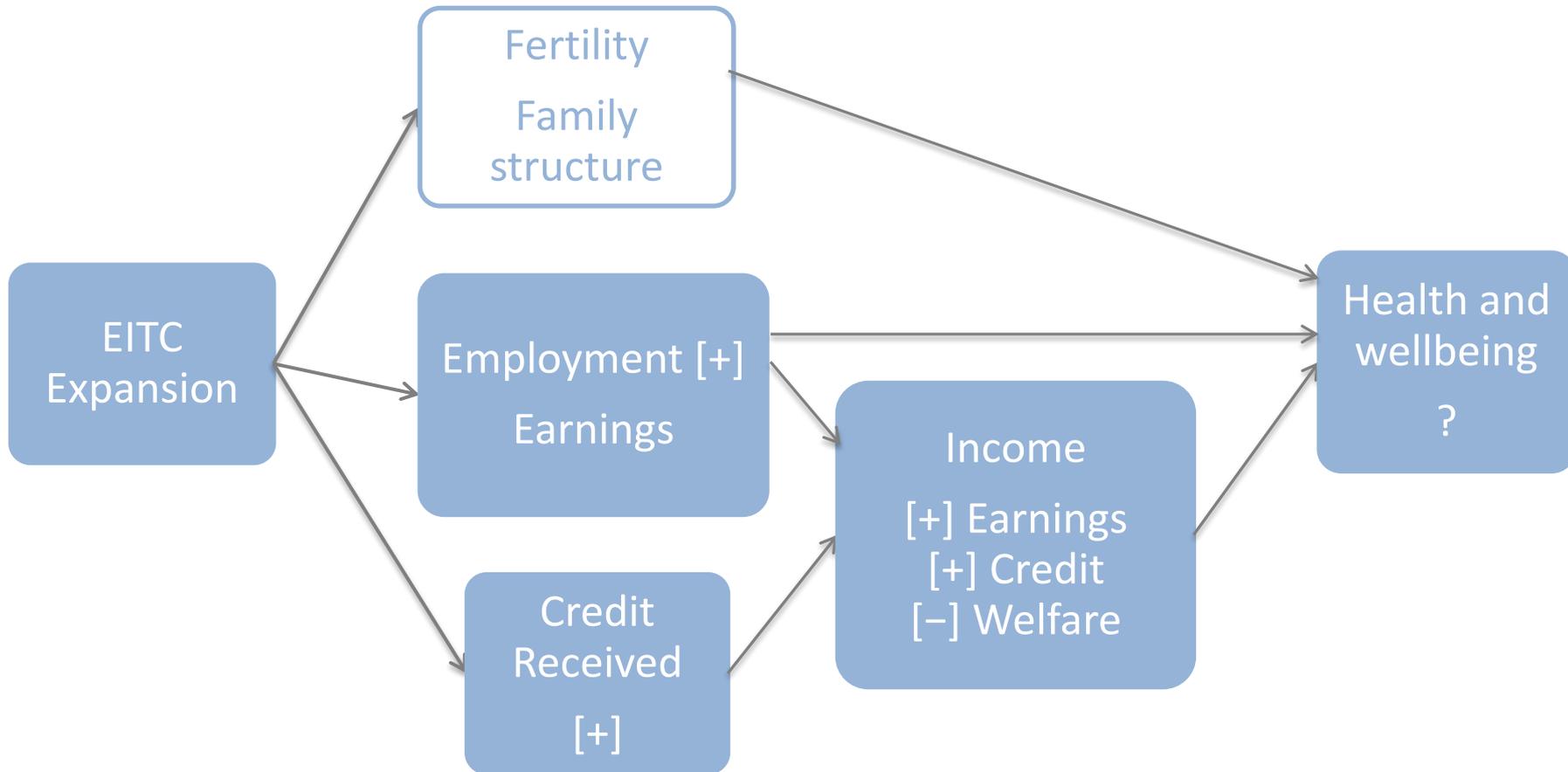
Figure 2.7. Targeting of in-work credits in OECD countries
(for single parent with two children), 2010¹



1. EIC: Earned Income Credit; ETC: Employee Tax Credit; EID: Earned Income Deduction; EITA: Earned Income Tax Allowance; LITC: Labour Income Tax Credit; LC: Labour Credit; ICC: Income Dependent Combination Credit; CTC: Child Tax Credit.

Source: OECD (2011), *Taxation and Employment*, OECD Tax Policy Studies, No. 21,

EITC, Employment, Income and Well-being



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Prior evidence on labor supply and distribution of income

- For single mothers, consistent evidence that an expansion in the EITC leads to increased employment (Eissa and Liebman QJE 1996, Meyer and Rosenbaum QJE 2001, Grogger RESTAT)
- For married couples, there is little effect on men but women reduce labor supply modestly (Eissa and Hoynes 2004)
- Little evidence of a reduction in earnings for those in the labor market (intensive margin response).
- Those with self-employment income bunch at the first EITC kink; unclear if this is a reporting response or intensive margin response in real economic activity (Saez 2010, Chetty and Saez 2013, Chetty, Friedman and Saez 2013)
- Little prior research on the impact of the EITC on the distribution of income

New evidence on the effects of EITC

(Hoynes and Patel 2014)

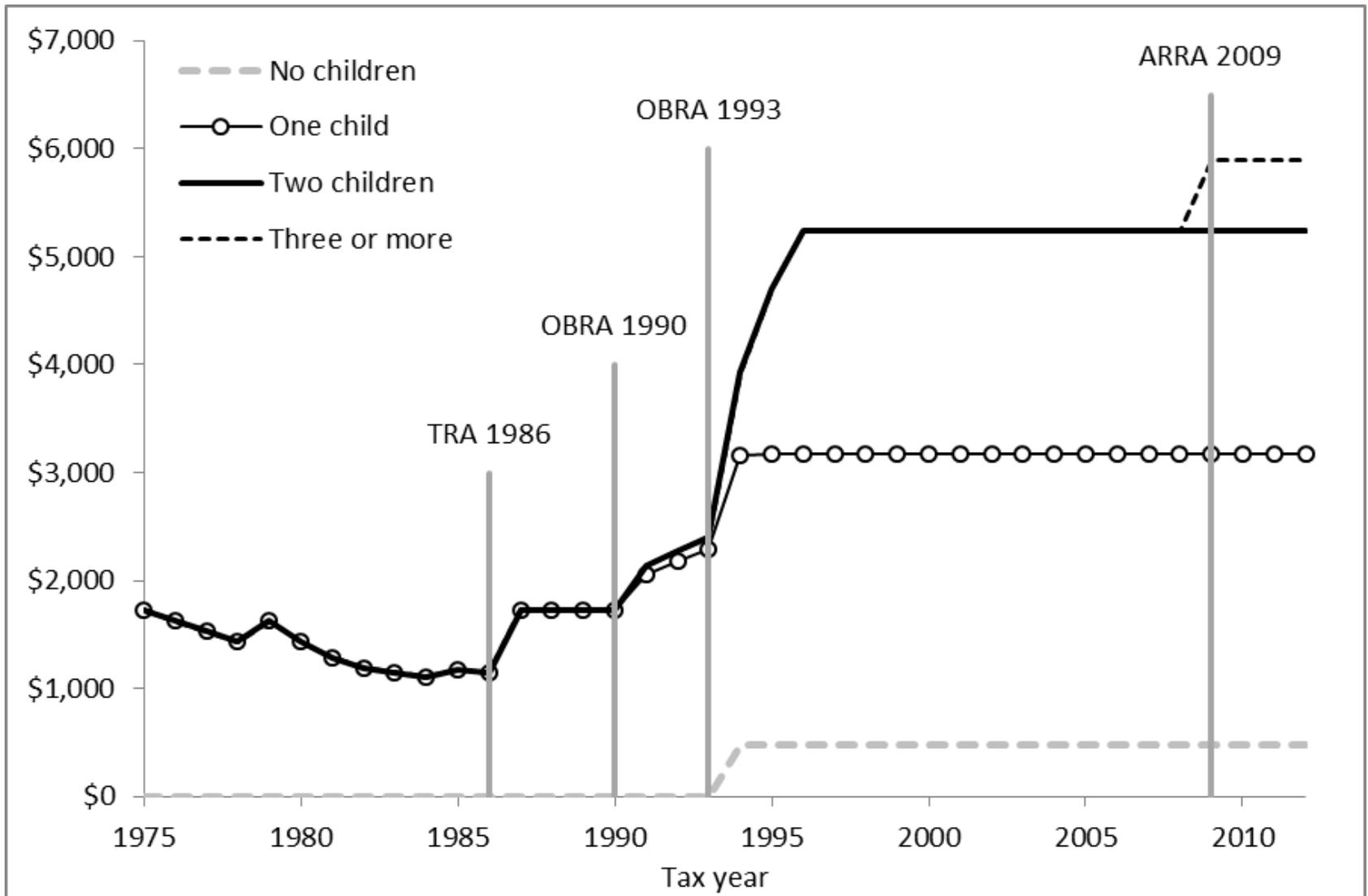
- We update the literature on labor supply, using event study models
- We extend the literature to examine effects on the distribution of income
- In our work we focus on single mothers because they account for the vast majority of the costs of the program.

	% Dist. of Recipients	% Dist. of Expenditure
Single, with children	58.7%	74.1%
Married, with children	19.4%	23.2%
No Children	21.9%	2.7%

New evidence on the effects of EITC (cont)

- We present two related estimation strategies in the paper:
 - Difference-in-difference and event study of OBRA93, the largest EITC expansion (analyzes years 1991-1998)
 - Generalized DD leveraging expansions throughout the period 1984-2012 (uses simulated EITC to parameterize generosity)
 - For both approaches, identification comes from differences in the generosity of the credit across family size (number of children) and year (tax reform)
- Here I show the results for the OBRA93 expansion
- We use the Current Population Survey, and examine annual employment rates as well as after-tax and transfer-income.
 - Our main estimation sample includes single women, ages 24-48, with some college or less

Maximum benefits by number of children (2012 \$)

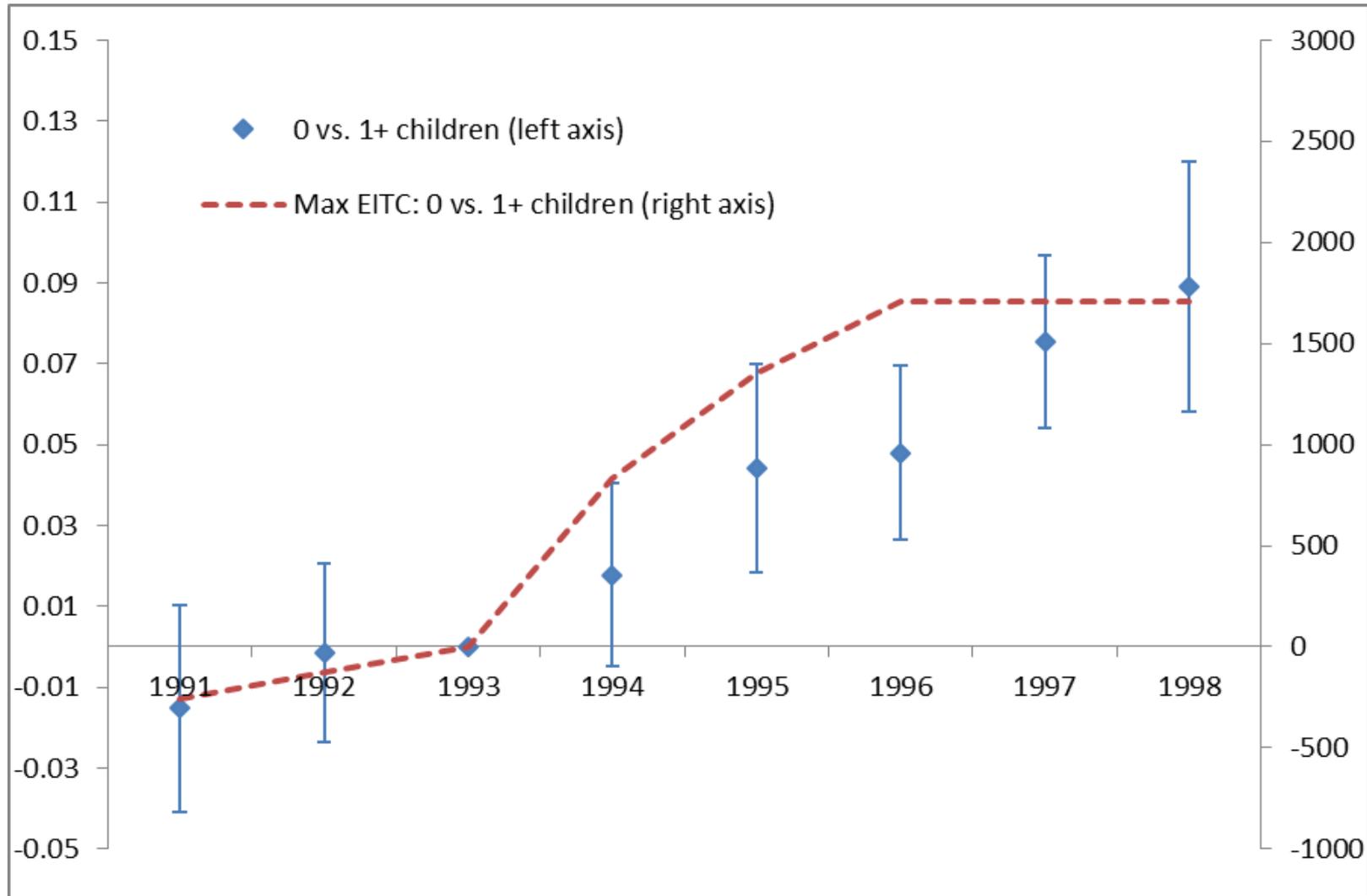


Event Study Specification

$$y_{it} = \alpha + \sum_{j=t^0}^T \beta_j [I(t = j) \times \text{treat}] + \eta_t + \gamma_c + \Phi X_{it} + \gamma Z_{st} + \varepsilon_{it},$$

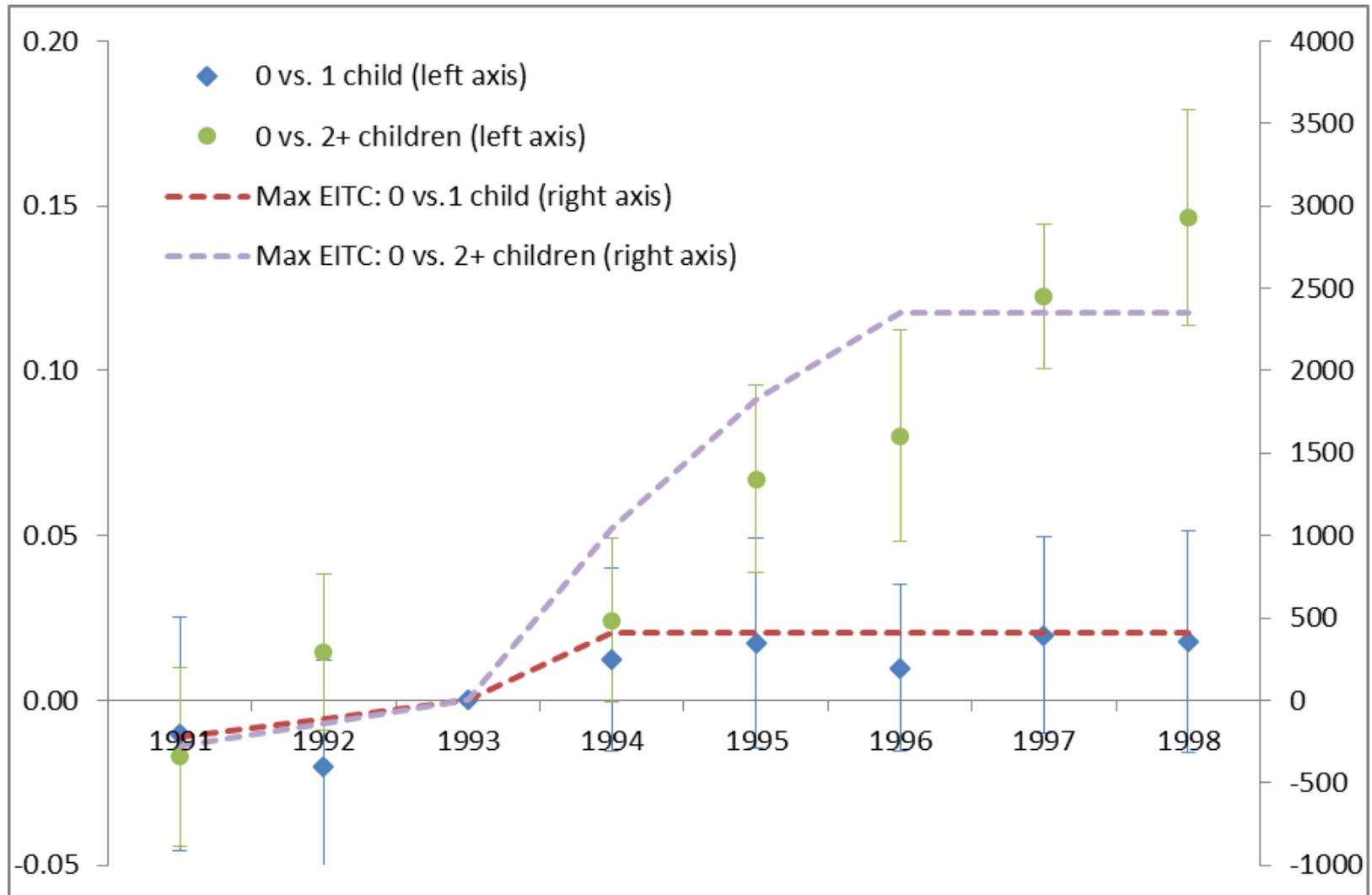
- Treat is 1+ children (compared to no children), 2+ and 1 separately (compared to no children), or 2+ compared to 1
- Demographic controls: age, education, race, ethnicity, divorced status
- Other controls: FE for children and year, AFDC/TANF benefit generosity and welfare reform policy variables (interacted with *anykids*), state-year unemployment rates (interacted with *anykids*)
- Clustered on state

Event Study Estimates of the Effects of OBRA1993



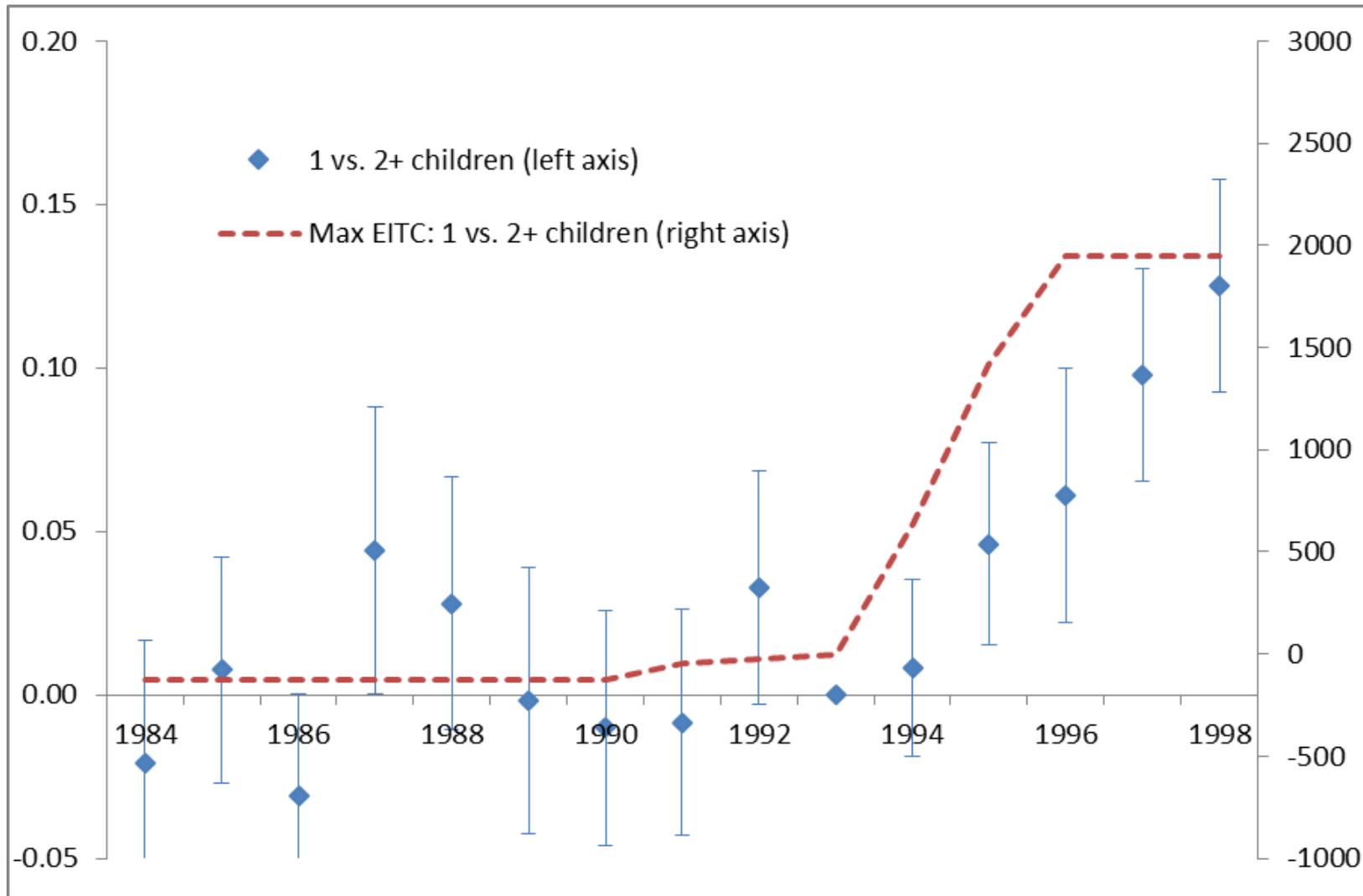
Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

Event Study Estimates of the Effects of OBRA1993



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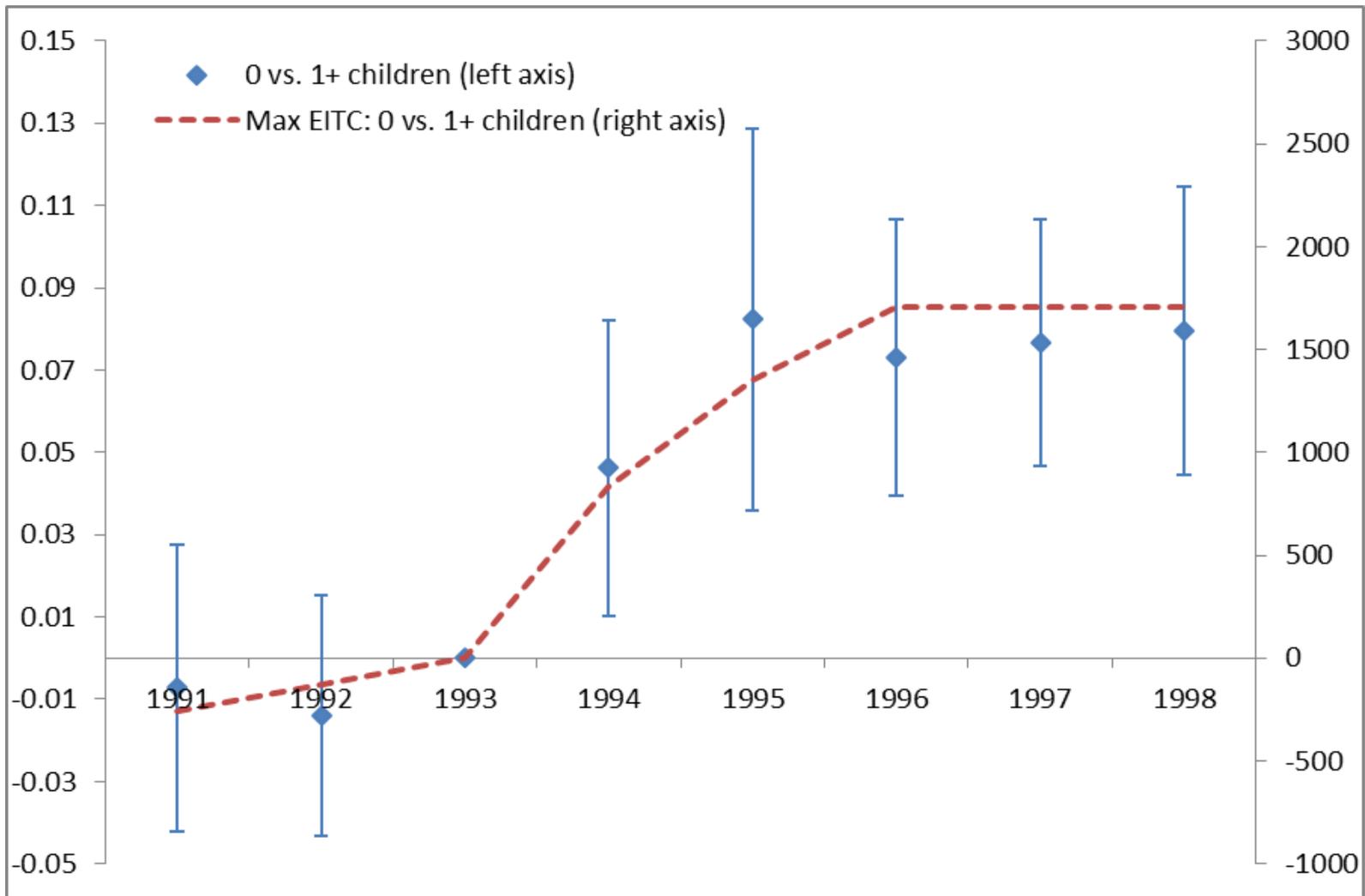
Magnitudes for labor supply effects

- Our results show that a \$1000 increase in (potential) Earned Income Tax Credit leads to a 7.3 – 7.8 percentage point increase in employment for single mothers
- Extensive margin elasticities range from 0.36-0.45
- These estimates are in line with the older literature and make a contribution by evaluating the validity of the design (e.g., event study models) and in showing that the effects operate through the 1990s and 2000s.

Effects of the EITC on the distribution of income (Hoynes and Patel 2014)

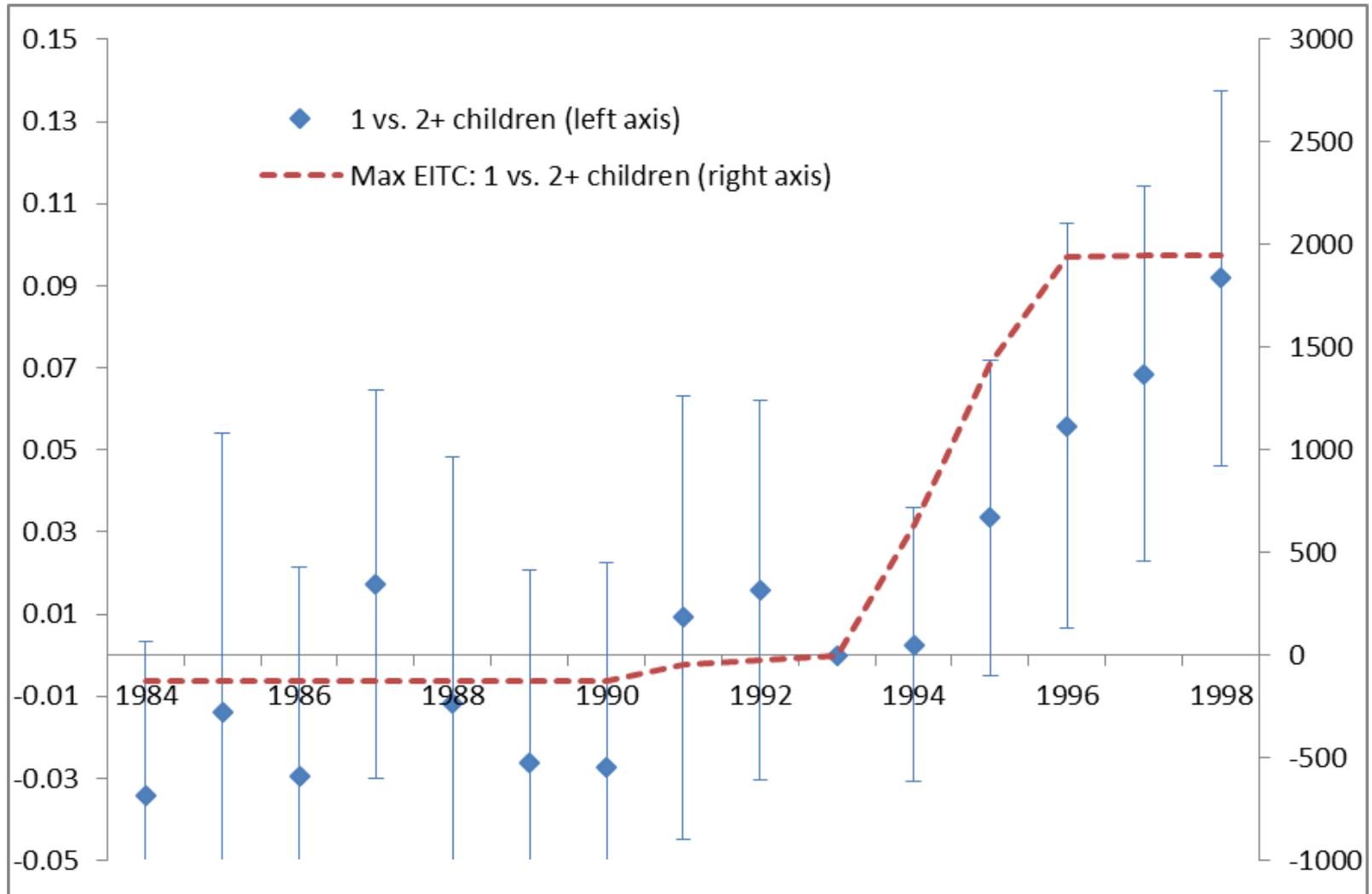
- We estimate similar event study and difference-in-difference models to estimate how the EITC affects after-tax and transfer income (ATTI)
- We are particularly interested where in the income distribution the credit has its effects
- We construct a series of dichotomous outcome variables, $= 1$ if $ATTI \geq x\%$ of the federal poverty threshold

Event Study Estimates of EITC on 100% poverty, OBRA93



Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

Event Study Estimates of EITC on 100% poverty, OBRA93

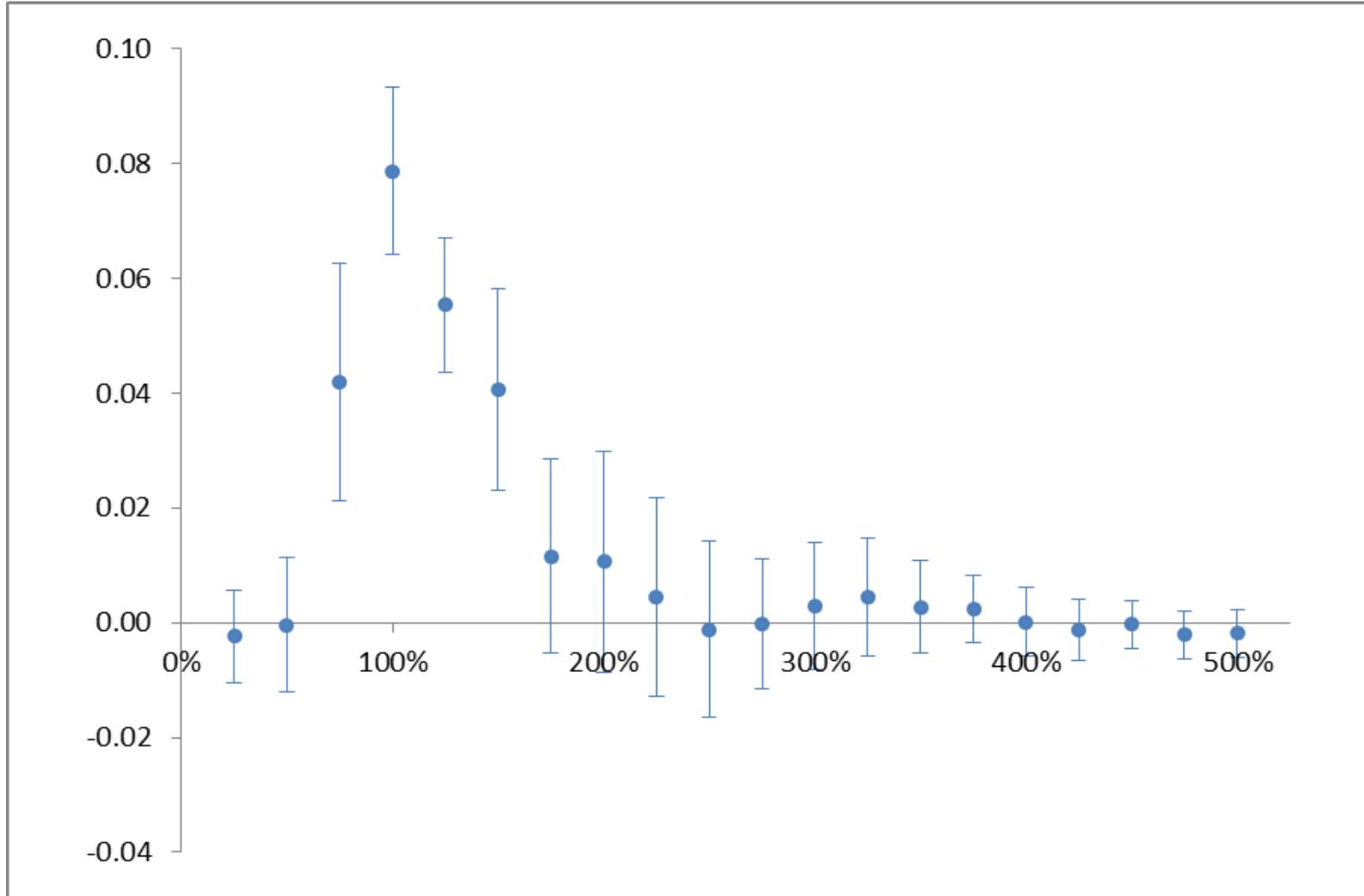


Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

Magnitudes for 100% poverty effects

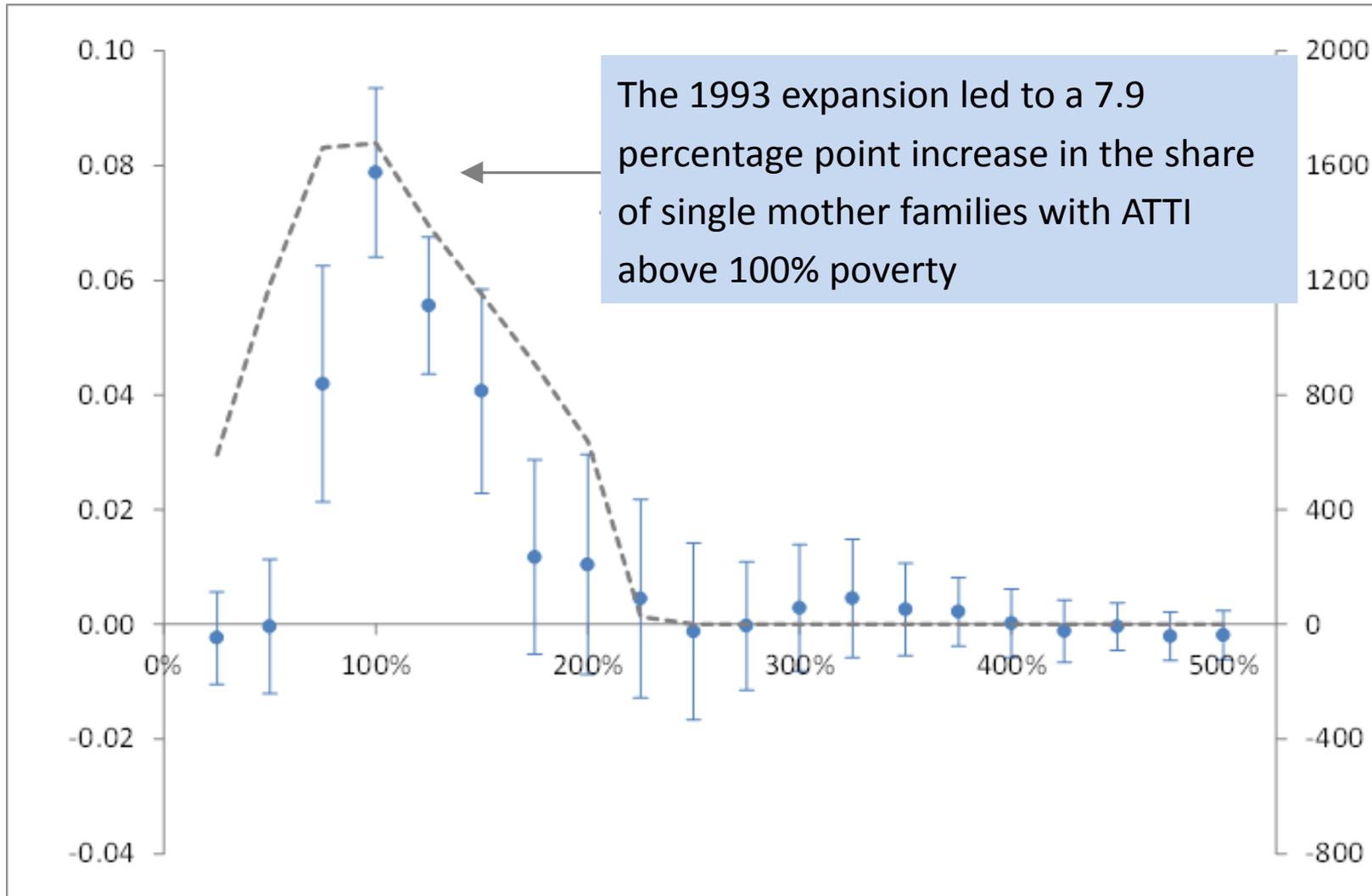
- The 1993 expansion led to a 7.9 percentage point increase in the share of single mother families with ATTI above poverty
- Over the full period, a \$1000 increase in (potential) Earned Income Tax Credit leads to a 8.1-8.6 percentage point increase in the share of single mother families with ATTI above poverty
- We can extend this to look at other cuts of the distribution of income to poverty

Difference-in-Difference Estimates of EITC on income to poverty, OBRA93



Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

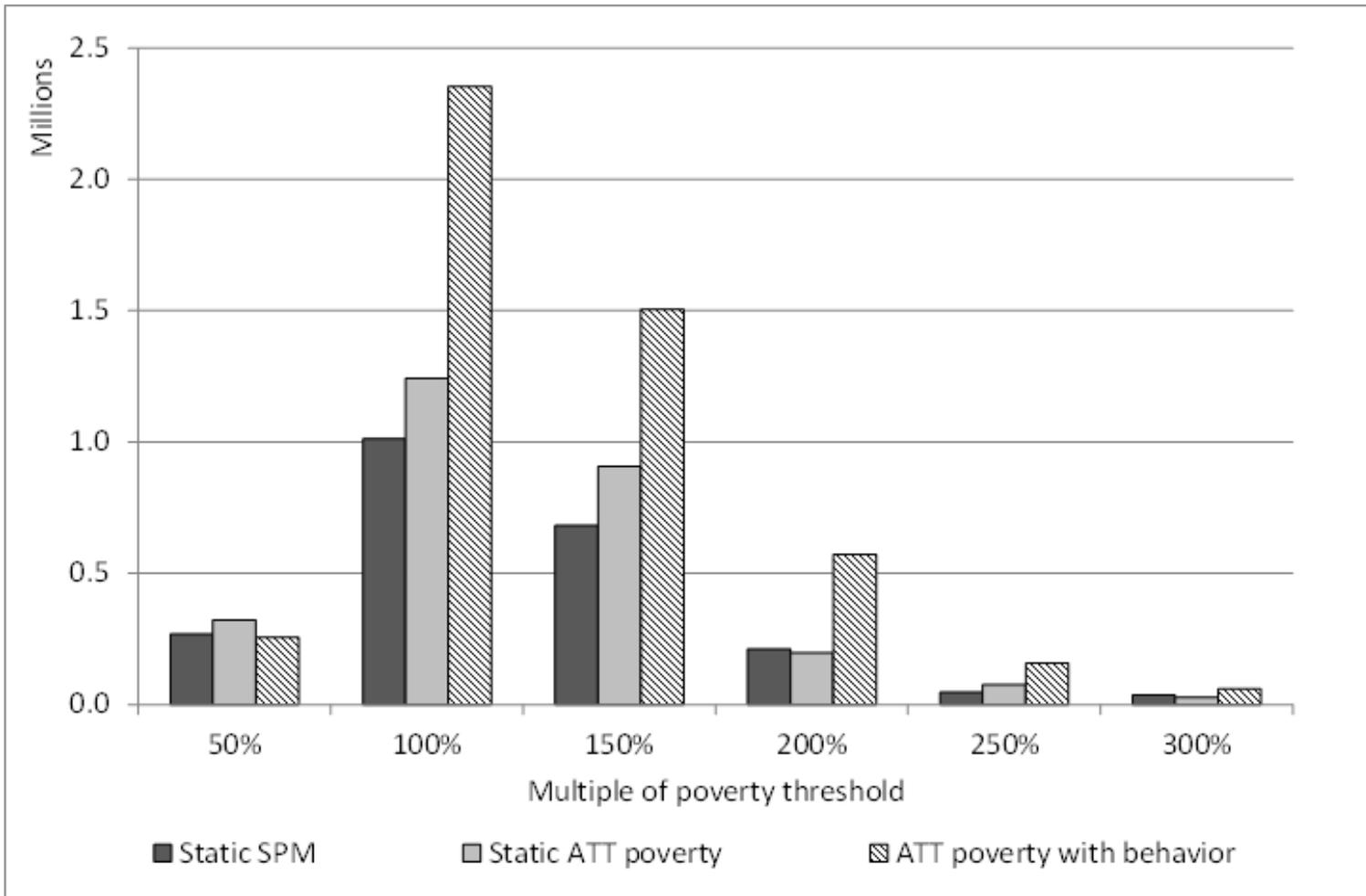
Difference-in-Difference Estimates of EITC on income to poverty, OBRA93



Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

Static versus Dynamic Calculations of Anti-Poverty Effects

Simulated number of children raised above income-to-poverty cutoffs



Source: Hoynes and Patel “Effective Policy for Reducing Inequality? The Earned Income Tax Credit and the Distribution of Income”

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Effects of the EITC on other family outcomes

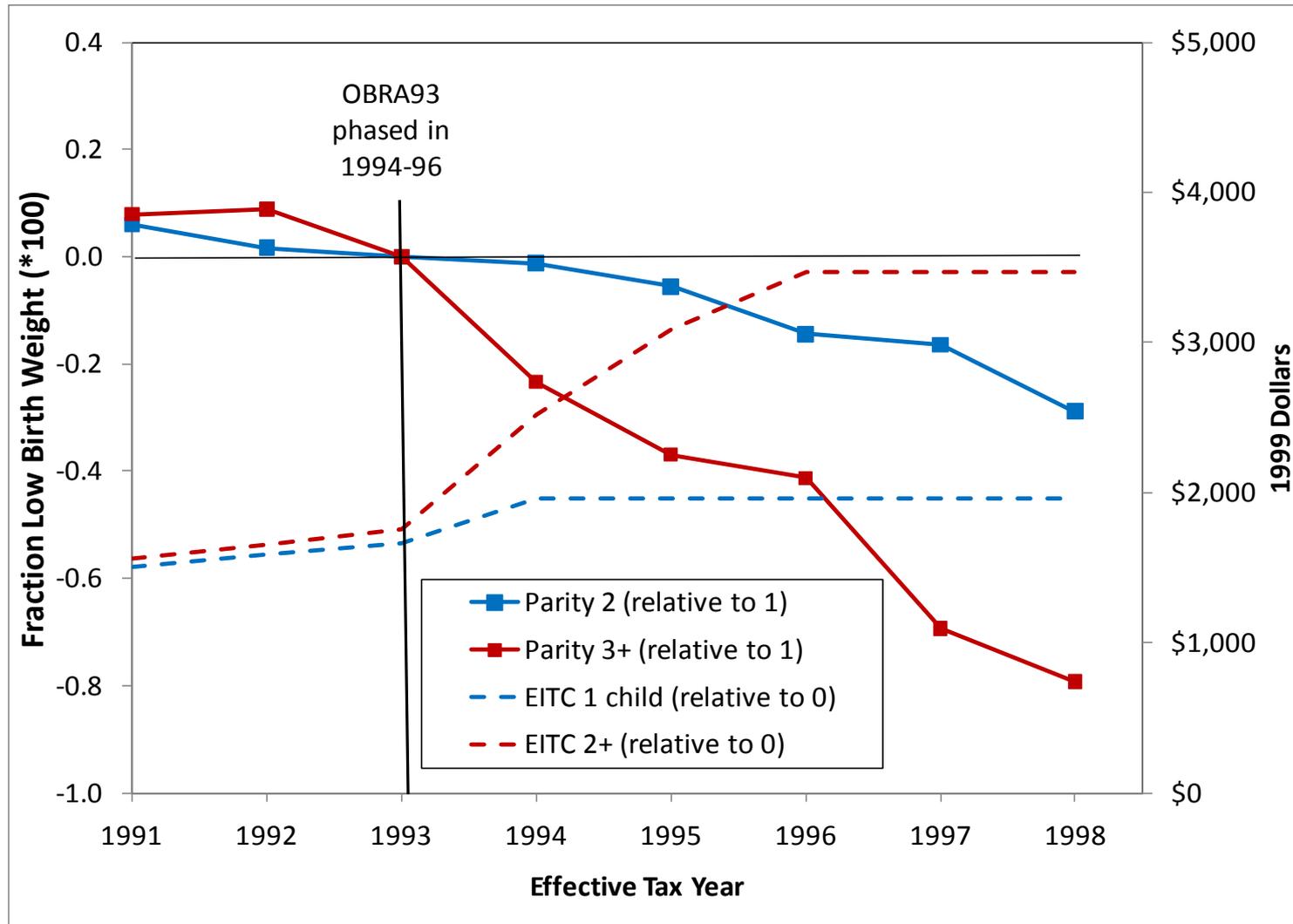
- We know that the EITC leads to increases in employment and net income
- Does this package of income and employment effects show benefits in other domains?
- A relatively recent literature seeks to quantify effects of safety net programs beyond labor supply and income
- In this setting (the EITC), it is difficult to identify the particular channel for the effects (*income versus employment*)
- Yet quantifying these effects is important for estimating the full benefits of this program (and of redistribution more generally)

Effects of the EITC on health

- Expansion of the EITC is associated with a reduction in risky biomarkers in mothers (Evans and Garthwaite 2011).
 - This suggests that increases in income can reduce cortisol.
 - Chronic elevations of cortisol can lead to dysfunction in metabolic and immune systems
- Hoynes, Miller and Simon (2015) find that EITC expansions lead to reductions in low birth weight births
 - Some evidence that this may operate through reductions in smoking and increases in prenatal care

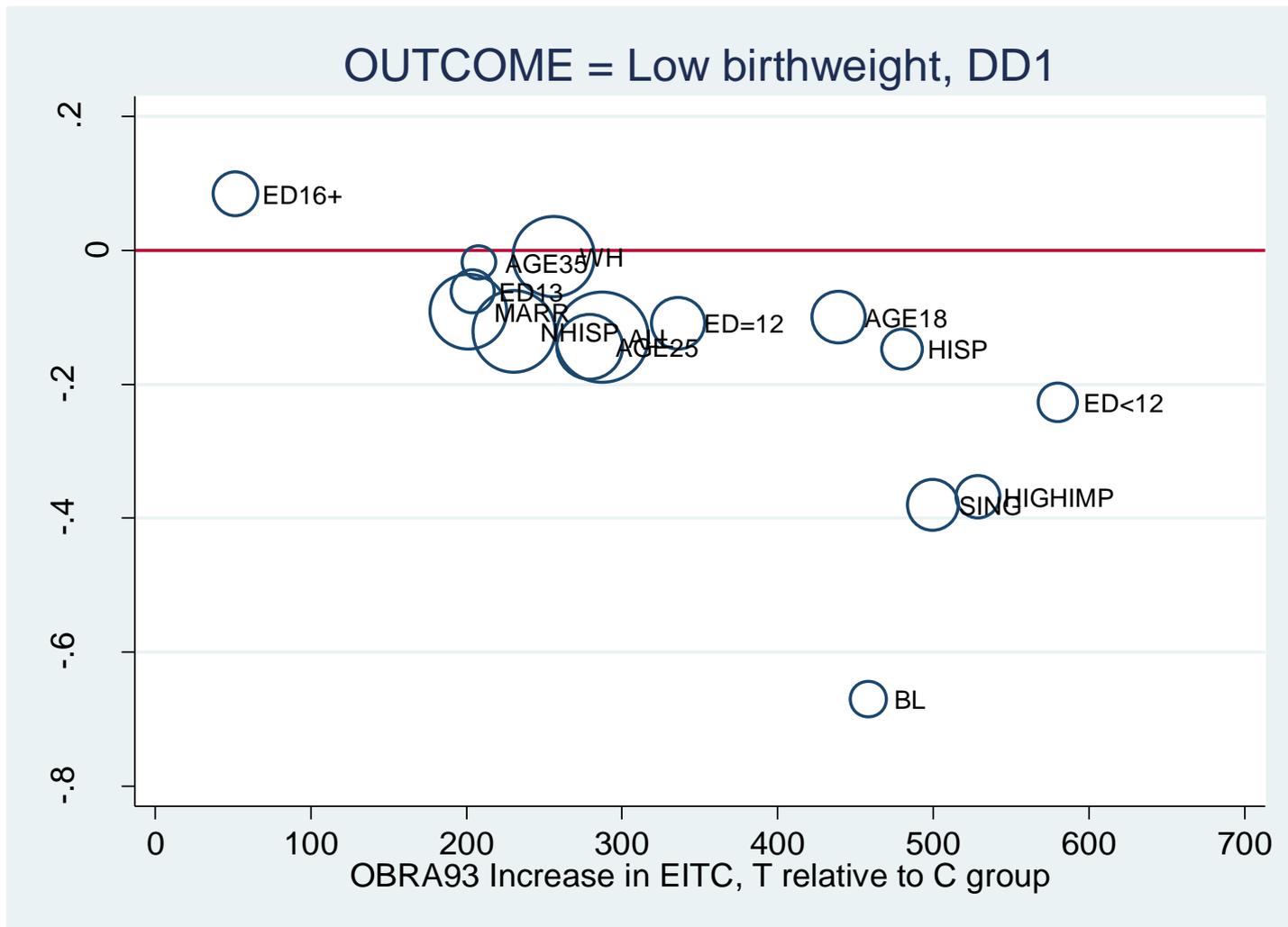
Effect of OBRA93 on low birth weight

Single women with ≤ 12 years of education



Source: Hoynes, Miller and Simon “Income, the Earned Income Tax Credit, and Infant Health”, American Economic Journal: Economic Policy, 2015.

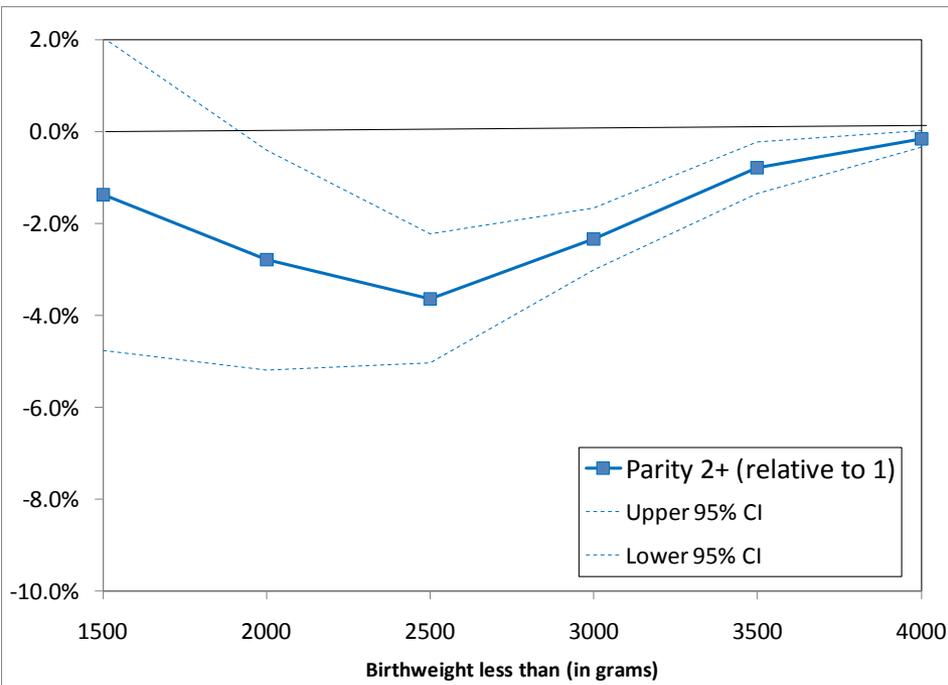
Magnitude of birth weight improvement lines up with predicted treatment



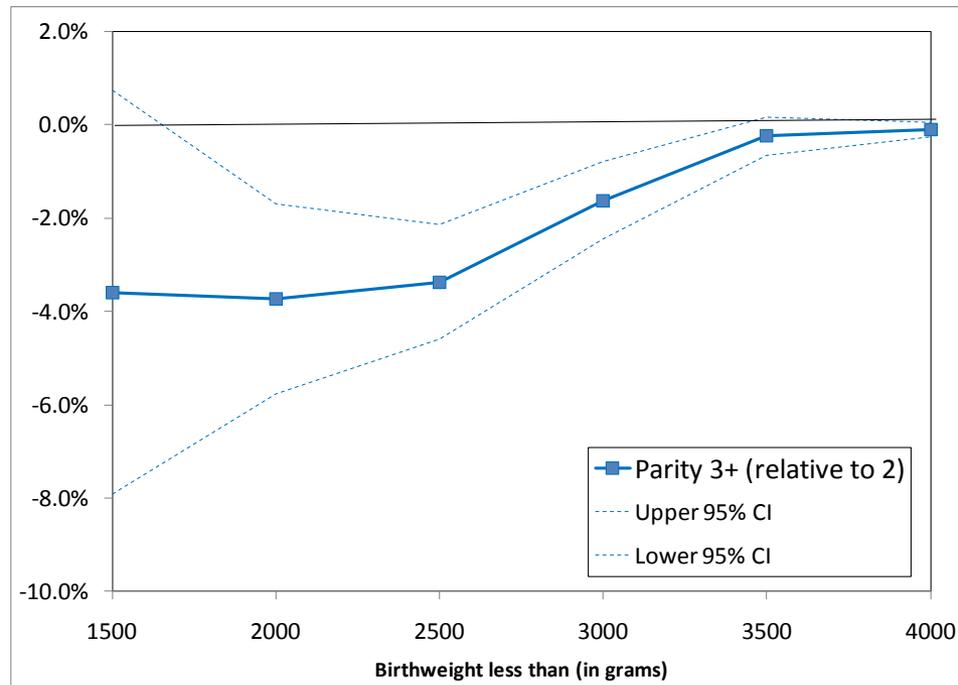
Source: Hoynes, Miller and Simon “Income, the Earned Income Tax Credit, and Infant Health”, American Economic Journal: Economic Policy, 2015.

Effect of OBRA93 on distribution of birthweight

Single women with ≤ 12 years of education



2+ vs. 1



3+ vs. 2

Source: Hoynes, Miller and Simon “Income, the Earned Income Tax Credit, and Infant Health”, American Economic Journal: Economic Policy, 2015.

Magnitudes for effects on low birth weight

- The 1993 expansion led to a 0.4 percentage point decrease in the rate of low birth weight birth
- This implies that a \$1000 increase in policy-driven EITC leads to a 7 percent reduction in the risk of LBW
- Comparison to other programs:
 - Food stamps: 4% for whites, 2% for blacks [Almond et al 2011]
 - WIC: 10 – 20% [Hoynes, Page and Stevens 2011, and others]
 - Layoffs: 4.7% [Lindo 2011]

Effects of the EITC on educational outcomes

- Dahl and Lochner (2012) use an IV approach and data from the Children of the NLSY. They find that a \$1,000 increase in family income due to EITC expansions raises combined math and reading test scores by about 0.06 standard deviations.
- Chetty, Friedman, and Rockoff (2011) use the nonlinearity of the EITC to identify the effect of EITC receipt on New York City schoolchildren's test scores. They find that \$1,000 in EITC income raises test scores by 0.06–0.09 standard deviations.
- Micheltore (2013), Maxfield (2013) and Manoli and Turner (2014) find that the EITC leads to increases in educational attainment, and in particular in college going.

Work in progress on the EITC and child well-being

(Figlio, Hoynes, Karbownik and Simon)

- We use data on all children attending schools in Florida
 - Panel data with yearly math and reading tests, covering birth cohorts 1992 – 2002 and school records for 1998-2013.
 - Linked to birth certificates, with detailed residential locations
- Our work hopes to contribute to the literature in several ways:
 1. We are leveraging different EITC expansions to learn something about when in the life cycle money matters. (*in-utero*, first year of life, contemporaneous while in school)
 2. We have data for a large and diverse state allowing us to have the power to examine the effects by subgroup
 3. We have outcomes for test scores and behavioral issues
 4. Use event study models to test for the validity of the quasi-experimental design

Preliminary Results

(Figlio, Hoynes, Karbownik and Simon)

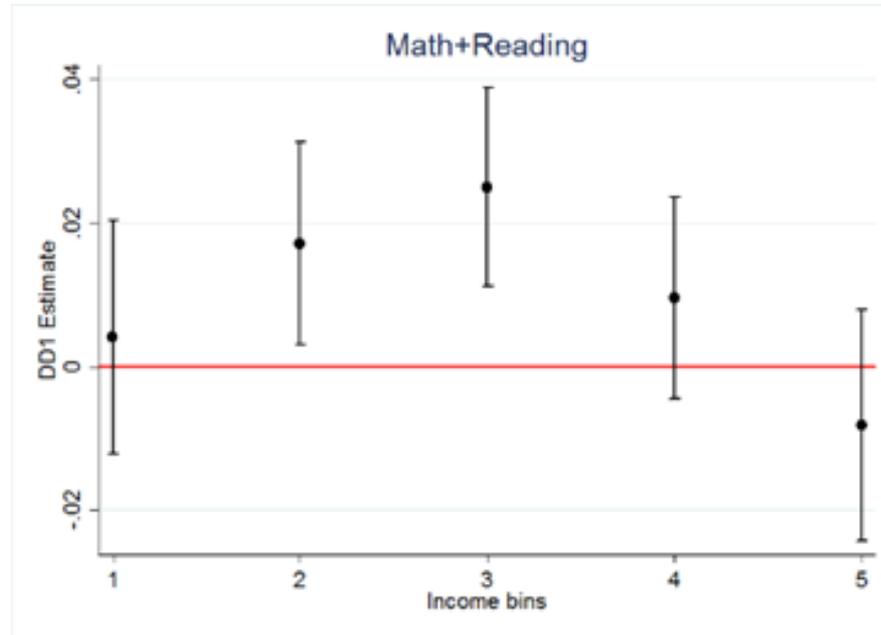
Table 1: Math+reading scores over time. Repeated cross-section. Single moms without college degree and top income tercile.

VARIABLES	(1) Pooled	(2) Grade 3	(3) Grade 4	(4) Grade 5	(5) Grade 6	(6) Grade 7	(7) Grade 8
Panel A – DD1 specification							
More than one*Post 1994	0.020*** (0.006)	0.021*** (0.007)	0.022*** (0.007)	0.015** (0.007)	0.016** (0.007)	0.021*** (0.007)	0.027*** (0.008)
Panel B – DD2 specification							
Two*Post 1994	0.015** (0.007)	0.018** (0.008)	0.010 (0.008)	0.010 (0.008)	0.013 (0.008)	0.017** (0.009)	0.020** (0.009)
More than two*Post 1994	0.025*** (0.007)	0.024*** (0.008)	0.034*** (0.008)	0.020** (0.008)	0.020** (0.008)	0.025*** (0.009)	0.034*** (0.009)
Observations	1,375,504	245,566	243,459	240,512	233,479	221,631	190,857

- These results use the 1993 expansion in the EITC. The treatment is the additional family income *in-utero*.
- By using the birth certificate information, we can use birth order and tax year to assign what EITC schedule they could potentially receive.
- Reduced form → 1993 expansion in-utero leads to a 0.02 SD increase in test scores; persisting through grade 8.
- Results here for sample of single moms without a college degree whose children were born in zipcode in lowest income tercile.

Preliminary Results

(Figlio, Hoynes, Karbownik and Simon)

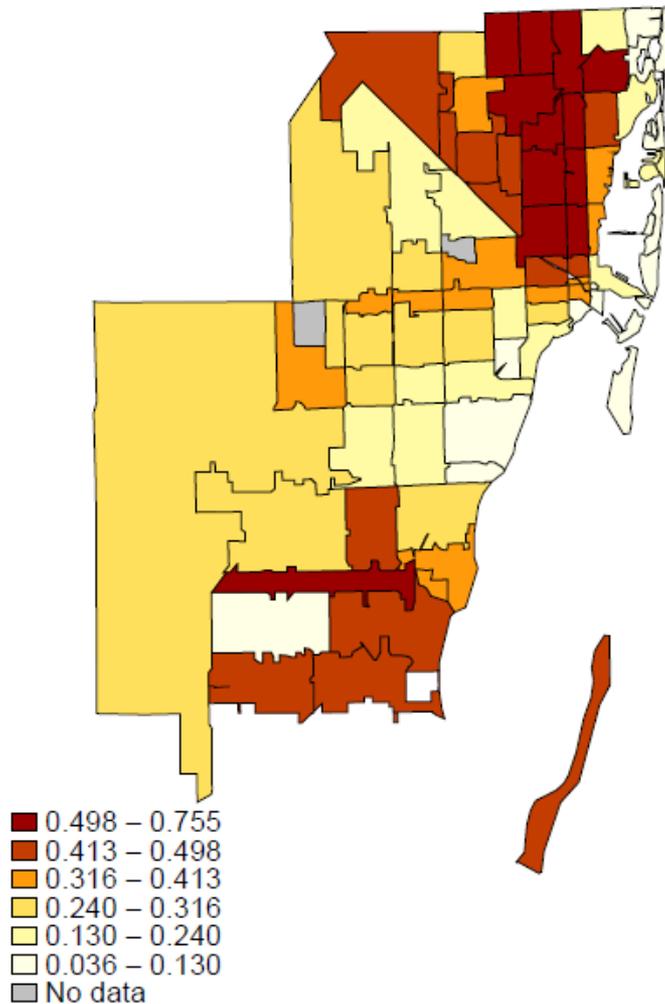


- Here we include all income groups and show the results separately for 5 income bins.
- Lowest income might not be affected (not connected to the labor market and thus no EITC). Highest income groups are not eligible and thus not affected.

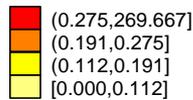
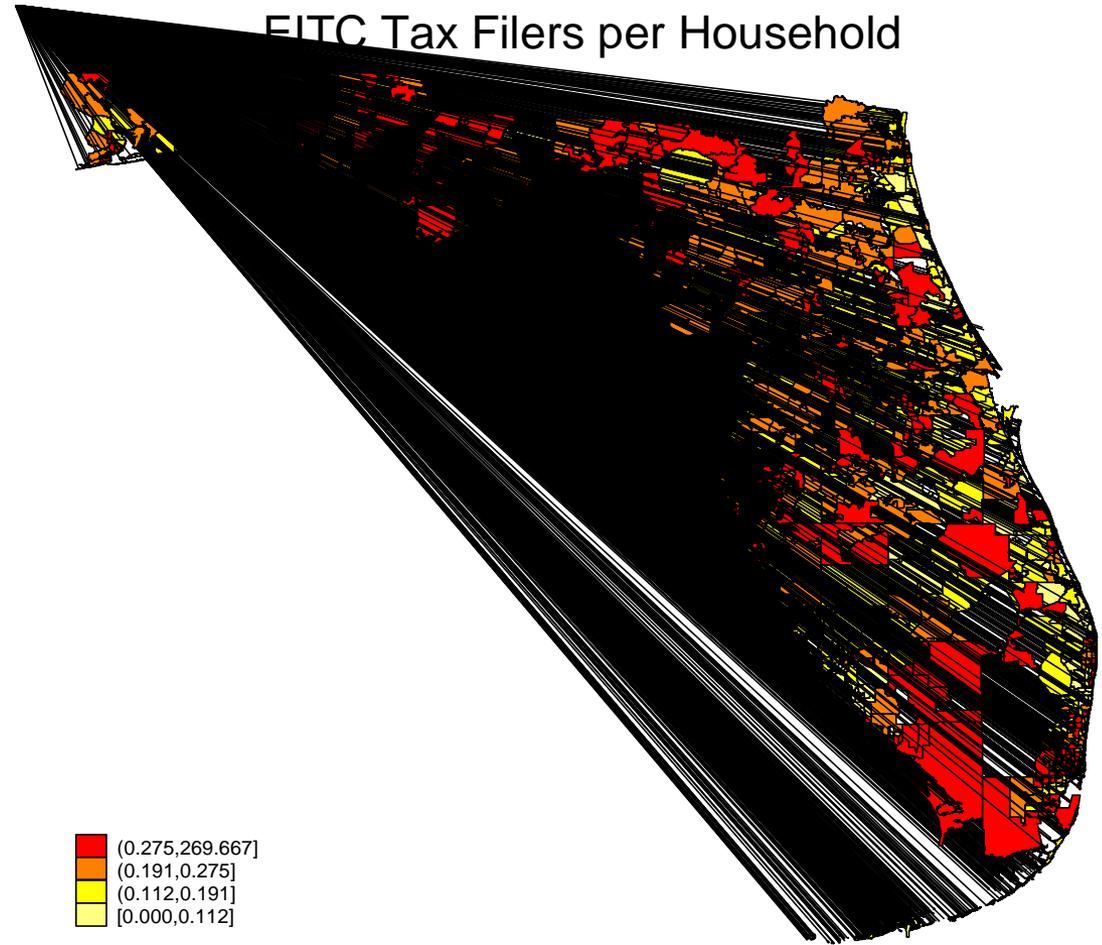
Leveraging Geographic Variation

(Figlio, Hoynes, Karbownik and Simon)

EITC Filers / Households
Miami-Dade County



EITC Tax Filers per Household



Conclusions

- The EITC is an important component of the tax-and transfer social safety net
- It has been very successful in increasing employment and reducing inequality (below two times the poverty line)
- Additionally, these gains translate into better health and cognitive outcomes, implying that benefits of safety net are broader than previously thought. Positive external benefits to taxpayers