

Public Policy 290

Poverty, Inequality and the Social Safety Net

Prof Hilary Hoynes

- Contacting me= hoynes@berkeley.edu
- Course web site = bCourses.berkeley.edu
- My office 345 in this building
- Office hours 3-5 on Tuesday

Course requirements

- Scientific Paper summary 10%
- In Class Pro/Con presentation 25%
- 2 Problem Sets 30%
- Policy brief 35%

The four main layers of the course

1. Facts and measurement (poverty, inequality, mobility, labor markets)
2. “Theory:” conceptual issues around social safety net programs (micro economics, cash vs inkind, public assistance versus social insurance)
3. Research Methods: gaining practice with different empirical approaches
4. Policy: analyzing policies current and potential reforms

Required reading

1. Readings on bCourses
2. Course Reader, available at Vick Copy, 1879 Euclid (in preparation)
3. Some additional materials – videos, podcasts

Course Website: bCourses.berkeley.edu

- Readings
- Schedule of readings (which may change as we go along)
- Powerpoint, posted before class each day

Course grade – problem sets

- Two problem sets grading core concepts such as applying microeconomics to the analysis of public policies

Course grade – scientific paper summary

- At least once during the term, prepare a summary of a paper which we will be discussing in class. These summaries are handed in at the beginning of class. The assignment should include a summary of the paper, its conclusions, and answers to the suggested questions on the syllabus.
- Aim for about 2 page summaries but more or less could be appropriate.
- Papers in **bold** on the syllabus are appropriate for this exercise.

Course grade – pro/con presentation

- Each student will identify a policy proposal and take a pro, or con, position on it and make a presentation to class.
- We will all read three recent policy pieces to identify topics
- Depending on class size, this might have to be a group project.
- The last week(s) of the semester will be for these presentations.

OPPORTUNITY, RESPONSIBILITY, AND SECURITY

A CONSENSUS PLAN FOR REDUCING POVERTY
AND RESTORING THE AMERICAN DREAM

AEI BROOKINGS

AEI/Brookings Working Group on Poverty and Opportunity



Freedom from Hunger: *An Achievable Goal for the United States of America*

Recommendations of the National Commission
on Hunger to Congress and the Secretary of the
Department of Agriculture

2015

The Path to Prosperity

Fiscal Year 2015 Budget Resolution



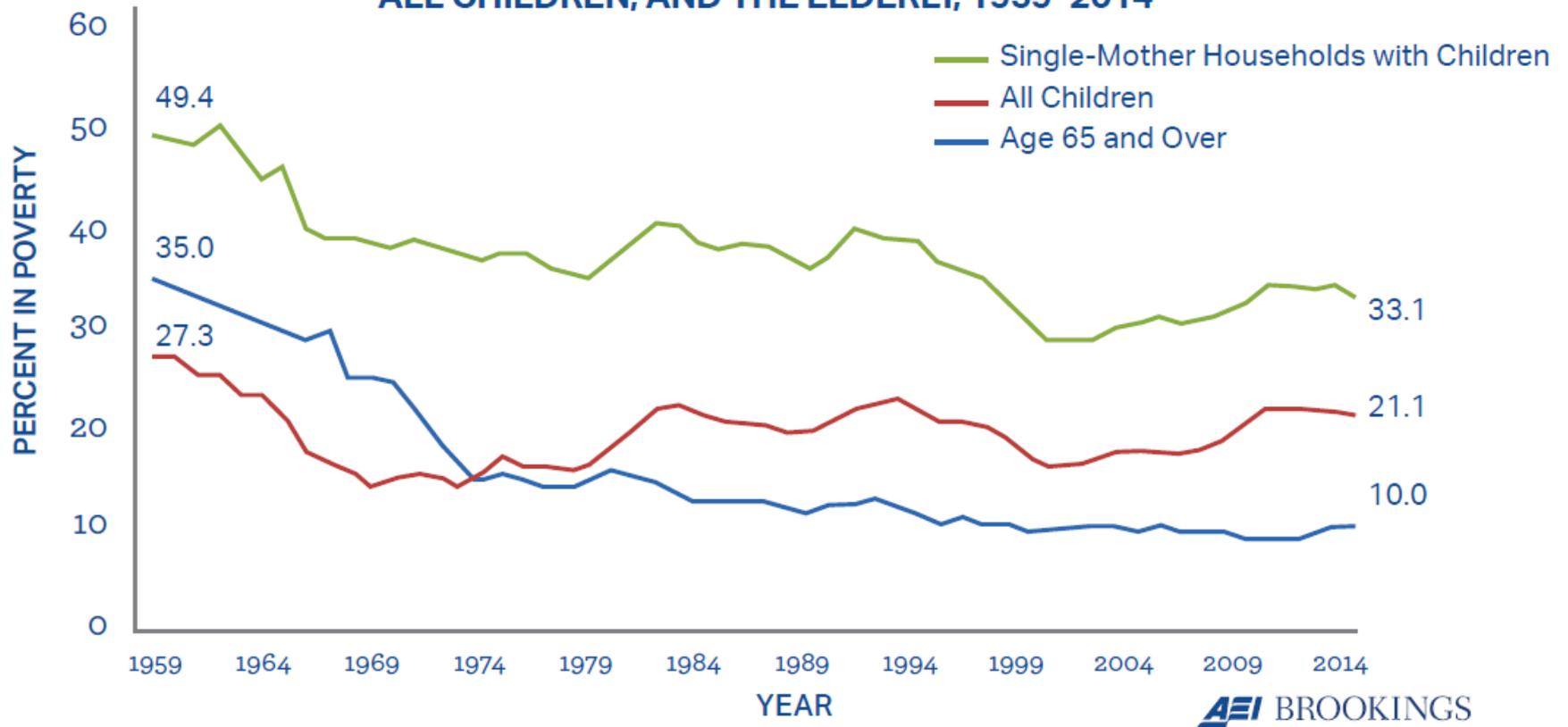
budget.house.gov

Course grade – policy memo

- On a topic of your choice related to coursework
- This should be brief and targeted

Overview of the course

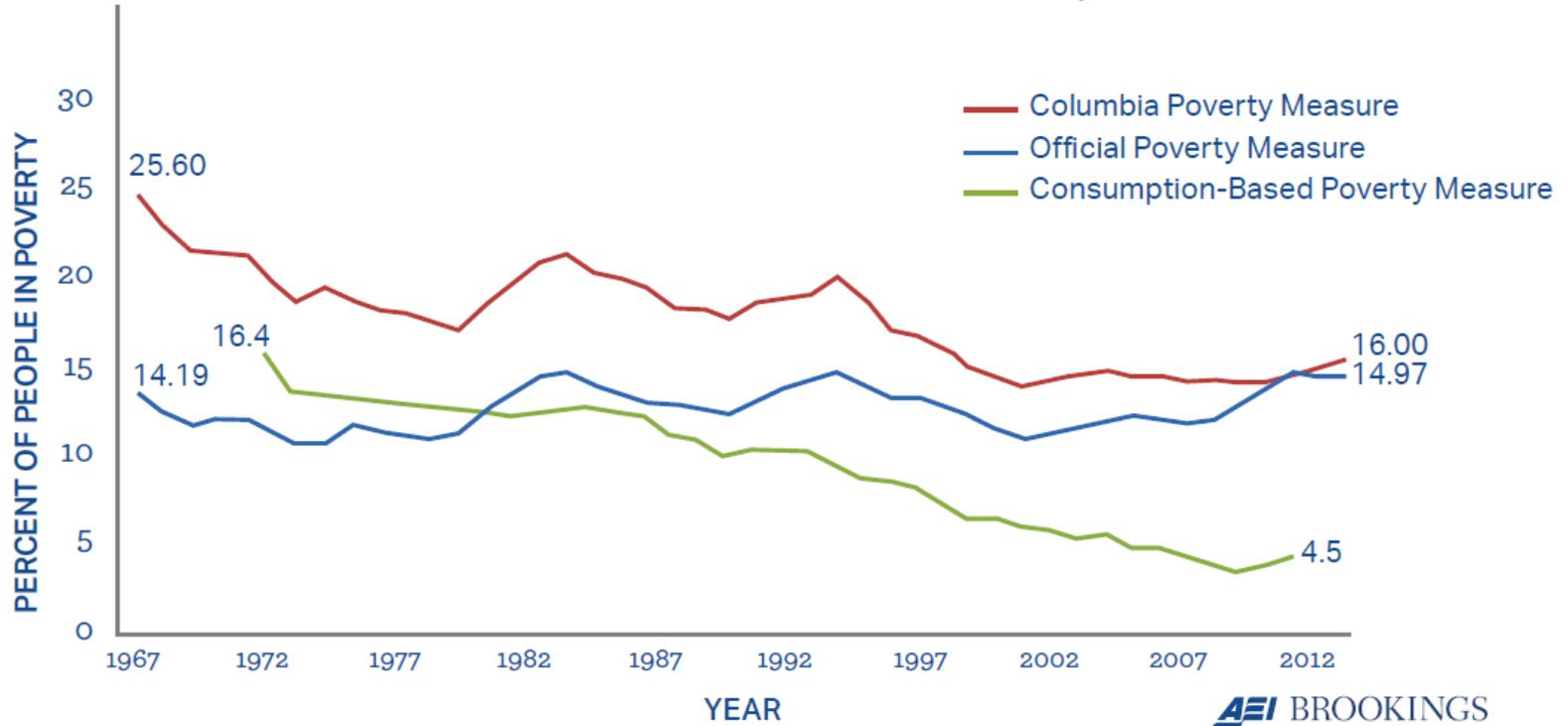
FIGURE 1
OFFICIAL POVERTY RATES FOR CHILDREN IN SINGLE-MOTHER HOUSEHOLDS,
ALL CHILDREN, AND THE ELDERLY, 1959–2014



Note: Data on elderly poverty rates unavailable for years 1960-1965.
 Source: Census Bureau, Poverty Division, CPS ASEC Tables 2 and 3.



FIGURE 2
POVERTY RATES UNDER THE OFFICIAL POVERTY MEASURE, THE COLUMBIA POVERTY MEASURE, AND THE CONSUMPTION-BASED POVERTY MEASURE, 1967–2012



Note: Data for consumption poverty unavailable from 1962-1971 and after 2010.

Source: Christopher Wimer and others, "Trends in Poverty with an Anchored Supplemental Poverty Measure," New York: Columbia Population Research Centre, December 2013, available at: http://socialwork.columbia.edu/sites/default/files/file_manager/pdfs/News/Anchored%20SPM.December7.pdf.

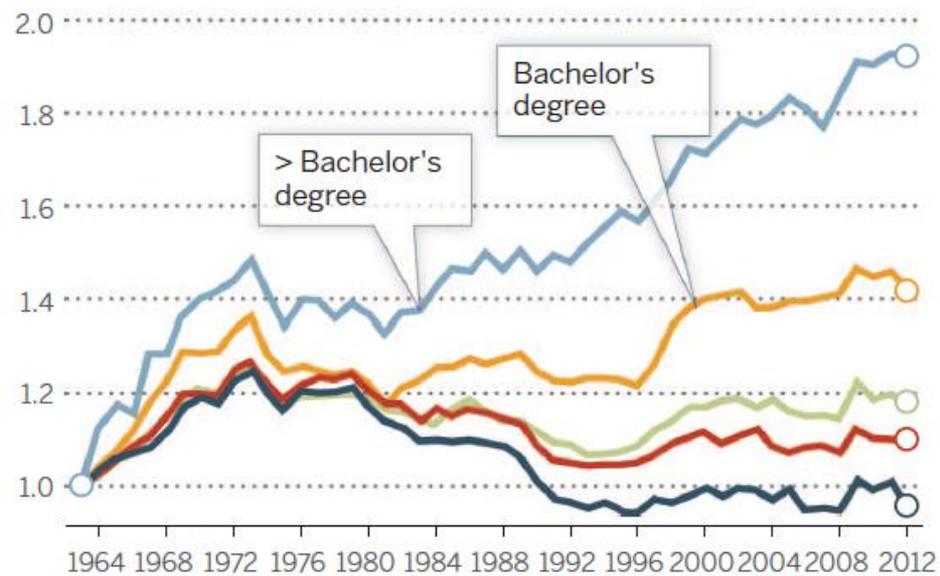
Bruce Meyer and James Sullivan, "Winning the War: Poverty from the Great Society to the Great Recession," Washington, DC, Brookings Papers on Economic Activity, 2012, available at http://www.brookings.edu/~media/Projects/BPEA/Fall-2012/2012b_Meyer.pdf?_lang=en



Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

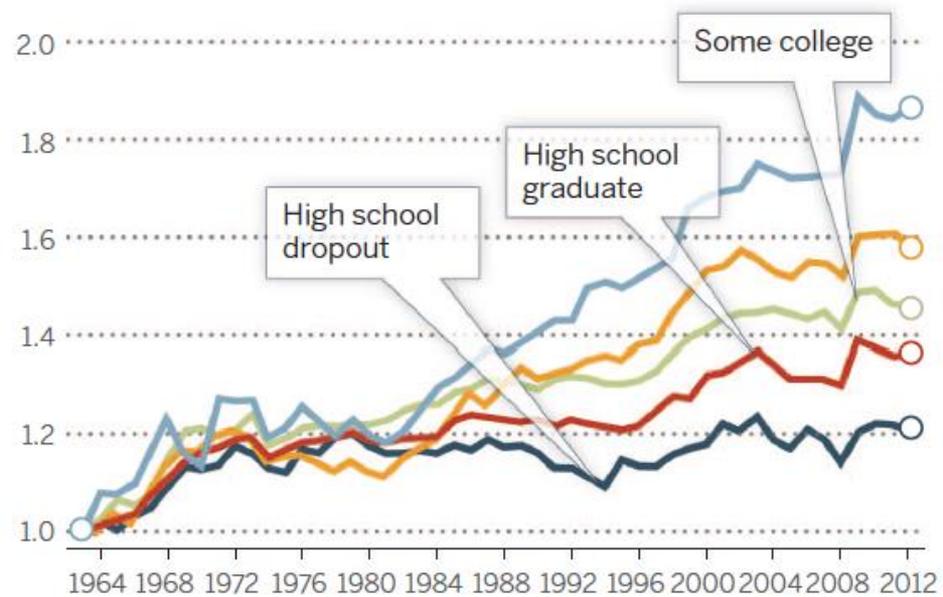
Real weekly earnings relative to 1963 (men)

A



Real weekly earnings relative to 1963 (women)

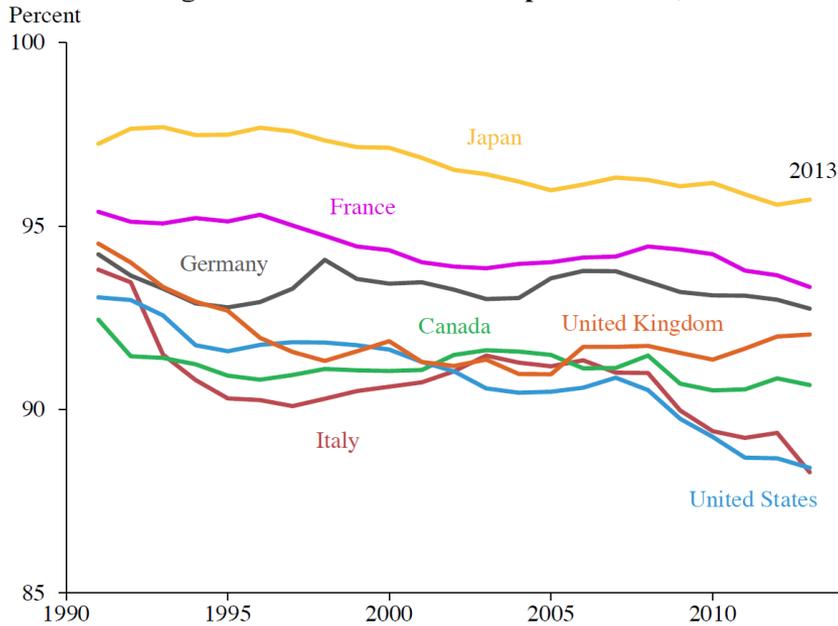
B



Labor force participation rate declines in the U.S.

Figure 1-9

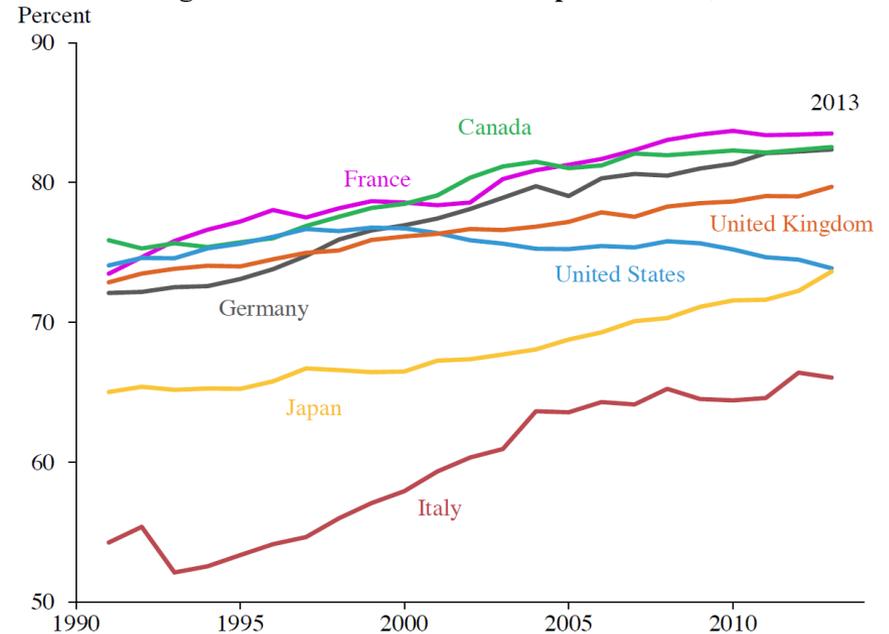
Prime-Age Male Labor Force Participation Rates, 1991–2013



Source: Organisation for Economic Co-operation and Development.

Figure 1-10

Prime-Age Female Labor Force Participation Rates, 1991–2013



Source: Organisation for Economic Co-operation and Development.

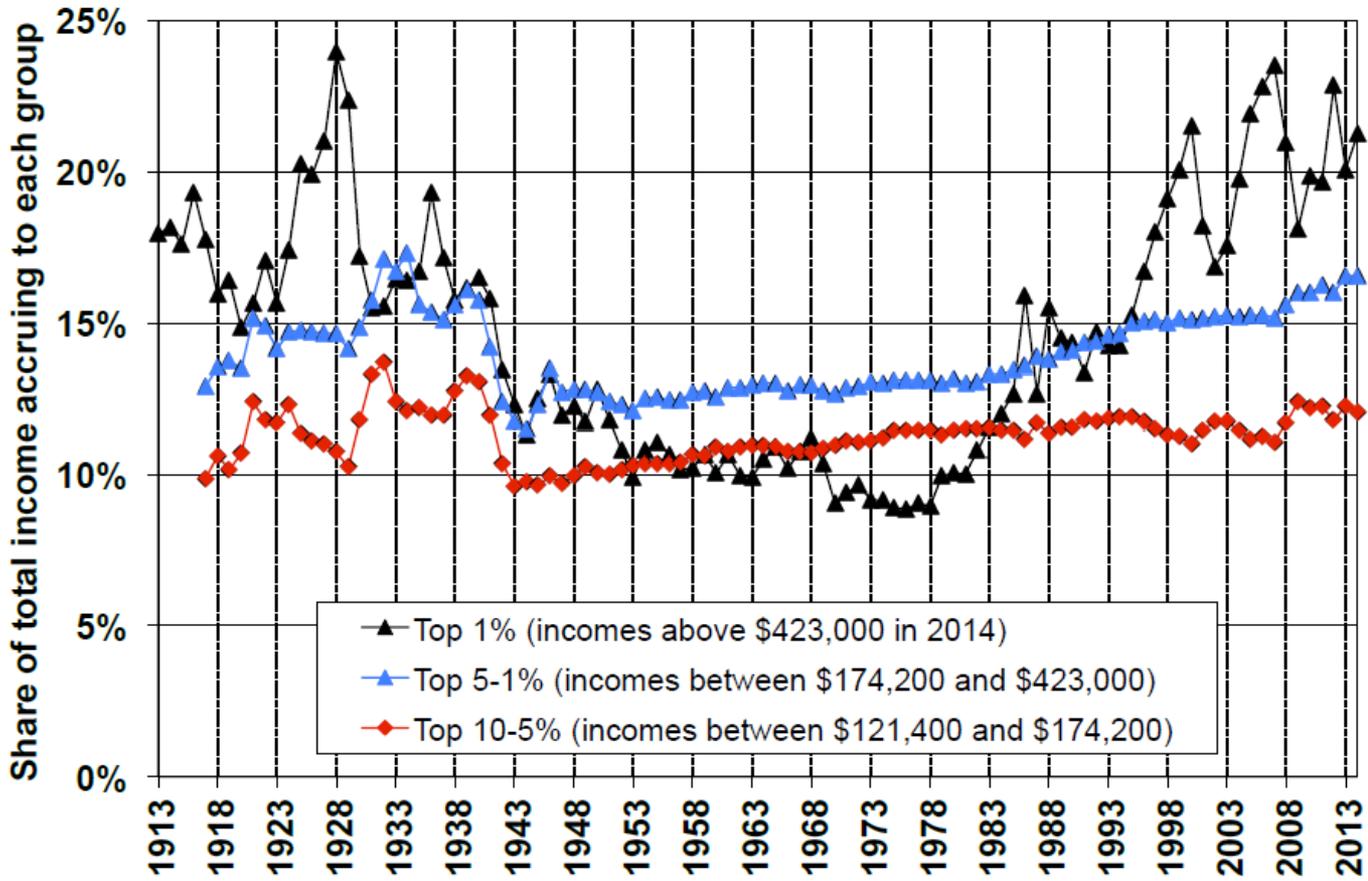


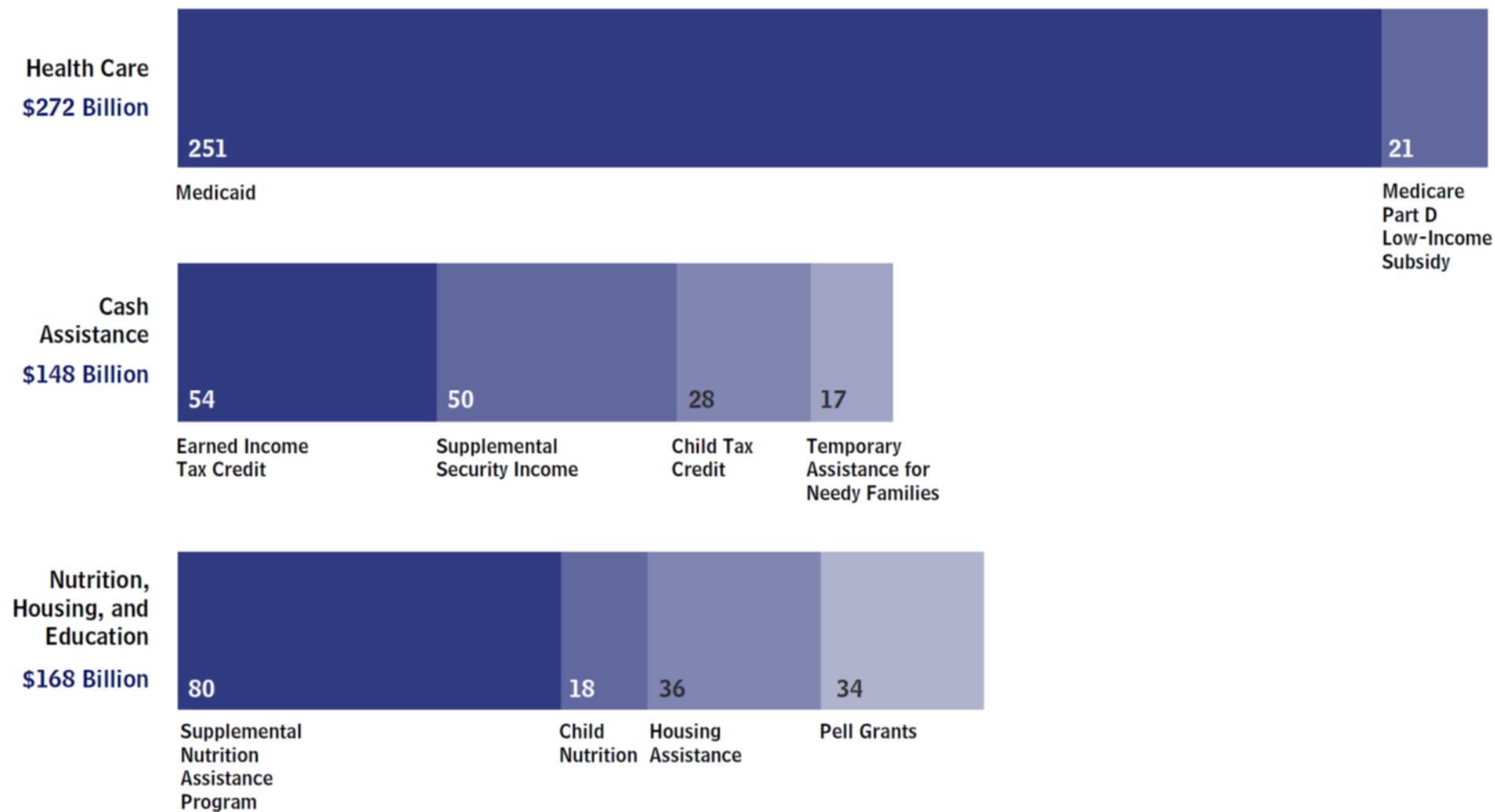
FIGURE 2

Decomposing the Top Decile US Income Share into 3 Groups, 1913-2014

Source: Piketty and Saez (2003), updated to 2013.

Federal Spending on Selected Means-Tested Programs and Tax Credits, 2012

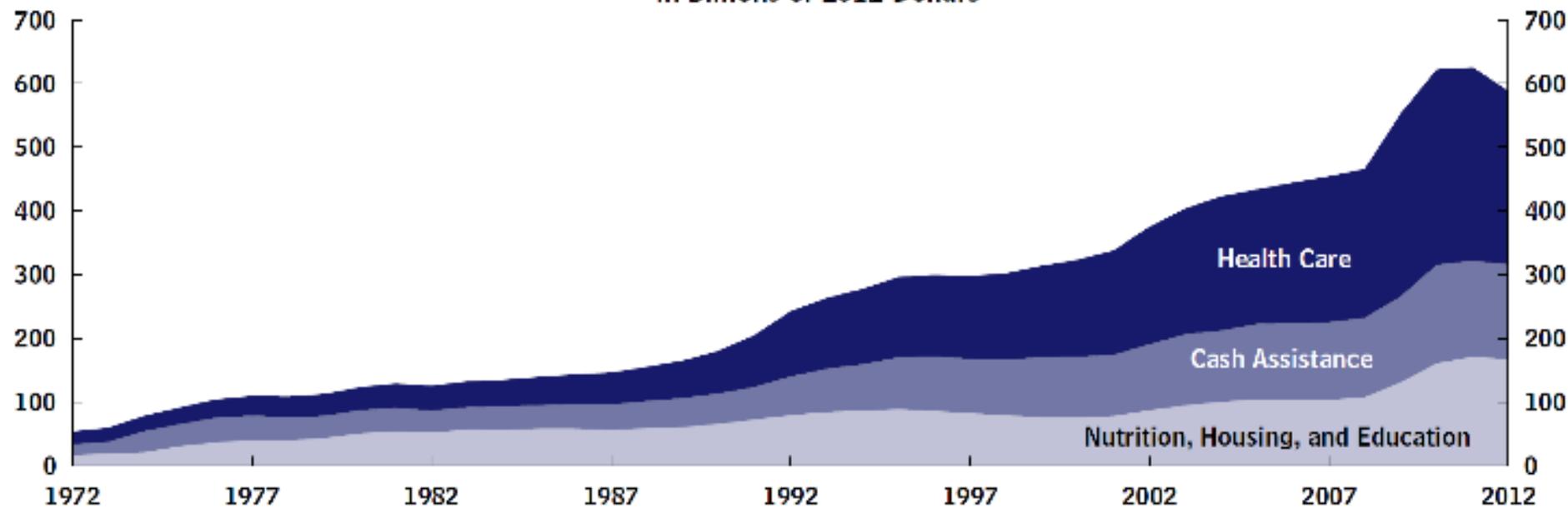
(Billions of dollars)



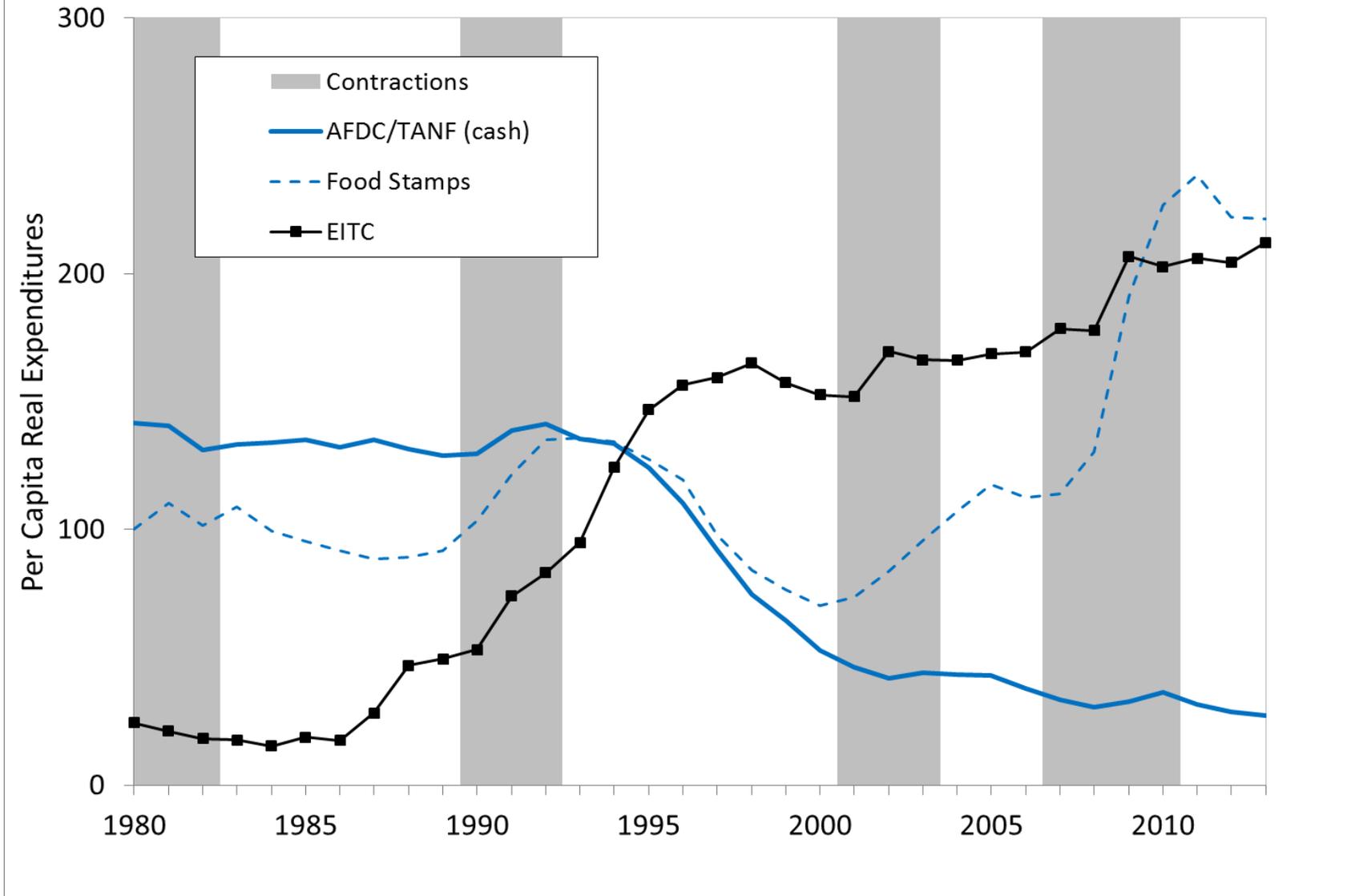
Source: Congressional Budget Office.

Federal Spending on Various Categories of Means-Tested Programs and Tax Credits, 1972 to 2012

In Billions of 2012 Dollars

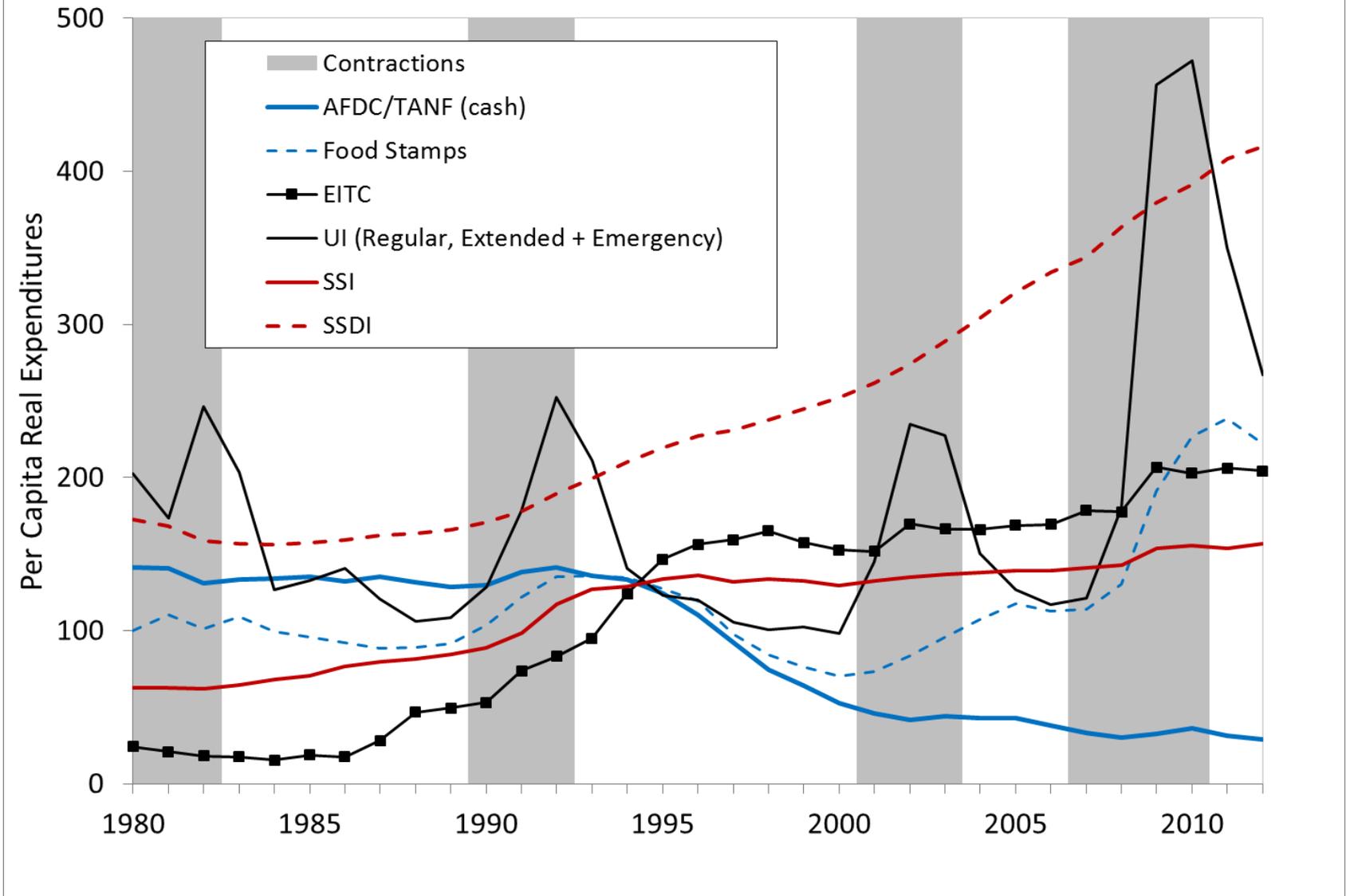


Per Capita Expenditures on the Social Safety Net (2012 dollars)



Source: Bitler and Hoynes “The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession,” *Journal of Labor Economics* 2016.

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



Source: Bitler and Hoynes “The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession,” *Journal of Labor Economics* 2016.

Ties to current policy debates –

- Recent Budget deal: Making EITC and Child Tax Credits permanent
- Republican poverty forum, hosted by Ryan
- Discussions of block granting SNAP (since it has worked so well for TANF)
- Imposing limitations on SNAP, eliminate sugar sweetened beverages
- Expand EITC to childless

Ties to current policy debates

Members of the AEI/Brookings Working Group on Poverty and Opportunity

LAWRENCE ABER, Willner Family Professor of Psychology and Public Policy, *New York University*

STUART BUTLER, Senior Fellow in Economic Studies, *Brookings Institution*

SHELDON DANZIGER, President, *Russell Sage Foundation*

ROBERT DOAR, Morgridge Fellow in Poverty Studies, *American Enterprise Institute*

DAVID T. ELLWOOD, Scott M. Black Professor of Political Economy, *Harvard University*

JUDITH M. GUERON, President Emerita, *MDRC*

JONATHAN HAIDT, Thomas Cooley Professor of Ethical Leadership, *New York University*

RON HASKINS, Cabot Family Chair and Senior Fellow, Economic Studies, *Brookings Institution*

HARRY J. HOLZER, Professor of Public Policy, *Georgetown University*

KAY HYMOWITZ, William E. Simon Fellow, *Manhattan Institute for Policy Research*

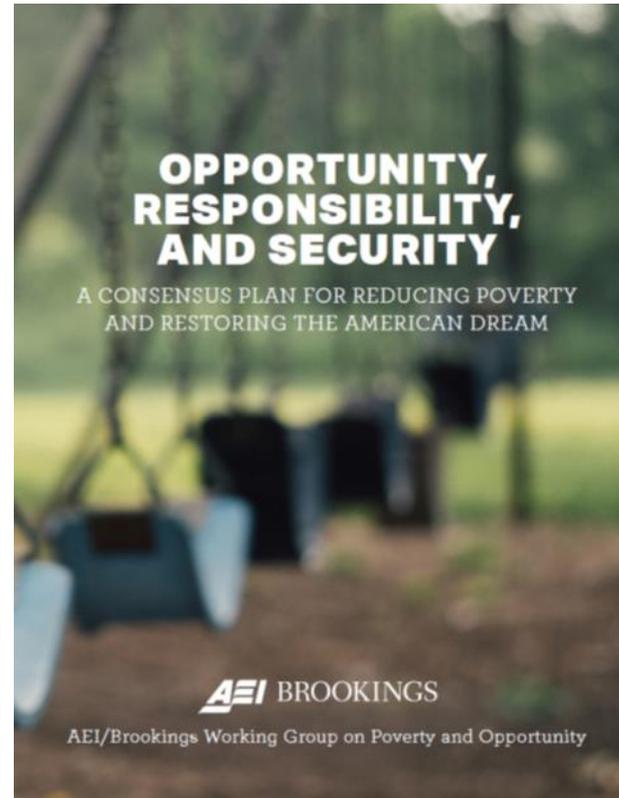
LAWRENCE MEAD, Professor of Politics and Public Policy, *New York University*

RONALD MINCY, Maurice V. Russell Professor of Social Policy and Social Work Practice, *Columbia University*

RICHARD V. REEVES, Senior Fellow in Economic Studies, *Brookings Institution*

MICHAEL R. STRAIN, Deputy Director of Economic Policy Studies and Resident Scholar,
American Enterprise Institute

JANE WALDFOGEL, Compton Foundation Centennial Professor for the Prevention of Children and Youth
Problems, *Columbia University*



The bi-partisan recommendations

To strengthen *families* in ways that will prepare children for success in education and work:

- 1) Promote a new cultural norm surrounding parenthood and marriage.
- 2) Promote delayed, responsible childbearing.
- 3) Increase access to effective parenting education.
- 4) Help young, less-educated men and women prosper in work and family.

To improve the quantity and quality of *work* in ways that will better prepare young people—men as well as women—to assume the responsibilities of adult life and parenthood:

- 1) Improve skills to get well-paying jobs.
- 2) Make work pay more for the less educated.
- 3) Raise work levels among the hard-to-employ, including the poorly educated and those with criminal records.
- 4) Ensure that jobs are available.

To improve *education* in ways that will better help poor children avail themselves of opportunities for self-advancement:

- 1) Increase public investment in two underfunded stages of education: preschool and postsecondary.
- 2) Educate the whole child to promote social-emotional and character development as well as academic skills.
- 3) Modernize the organization and accountability of education.
- 4) Close resource gaps to reduce education gaps.

Zooming out a bit, how do the programs we will study fit into the overall government activities?

Things governments do:

- Tax
- Regulate
- Subsidize
- Transfers to families
- Provide a direct service
- Provide information
- Property rights and a legal structure
- Encourage competition

Things governments do

- Tax **INCOME TAX**
- Regulate **ENVIRONMENTAL STANDARDS**
- Subsidize **AGRICULTURAL SUBSIDIES**
- Redistributing income **FOOD STAMPS**
- Provide a direct service **PUBLIC SCHOOLS, MILITARY**
- Provide information
- Property rights and a legal structure
- Encourage competition **ANTI-TRUST RULES**



Justifications for government policies

- Correcting a market failure
 - Externalities
 - Public Good (“tragedy of the commons”)
 - Incomplete markets (health insurance)
 - Information failure
- Redistribution

Equity versus Efficiency

Normative and positive economics

Goal: increase wellbeing (welfare) of citizens

Putting these government activities into practice



What Is Driving Growth in Government Spending?

By NATE SILVER JANUARY 16, 2013 1:06 PM [271 Comments](#)

1. Entitlement programs
2. Military spending
3. Interest on the debt
4. Infrastructure and services

Putting these government activities in practice

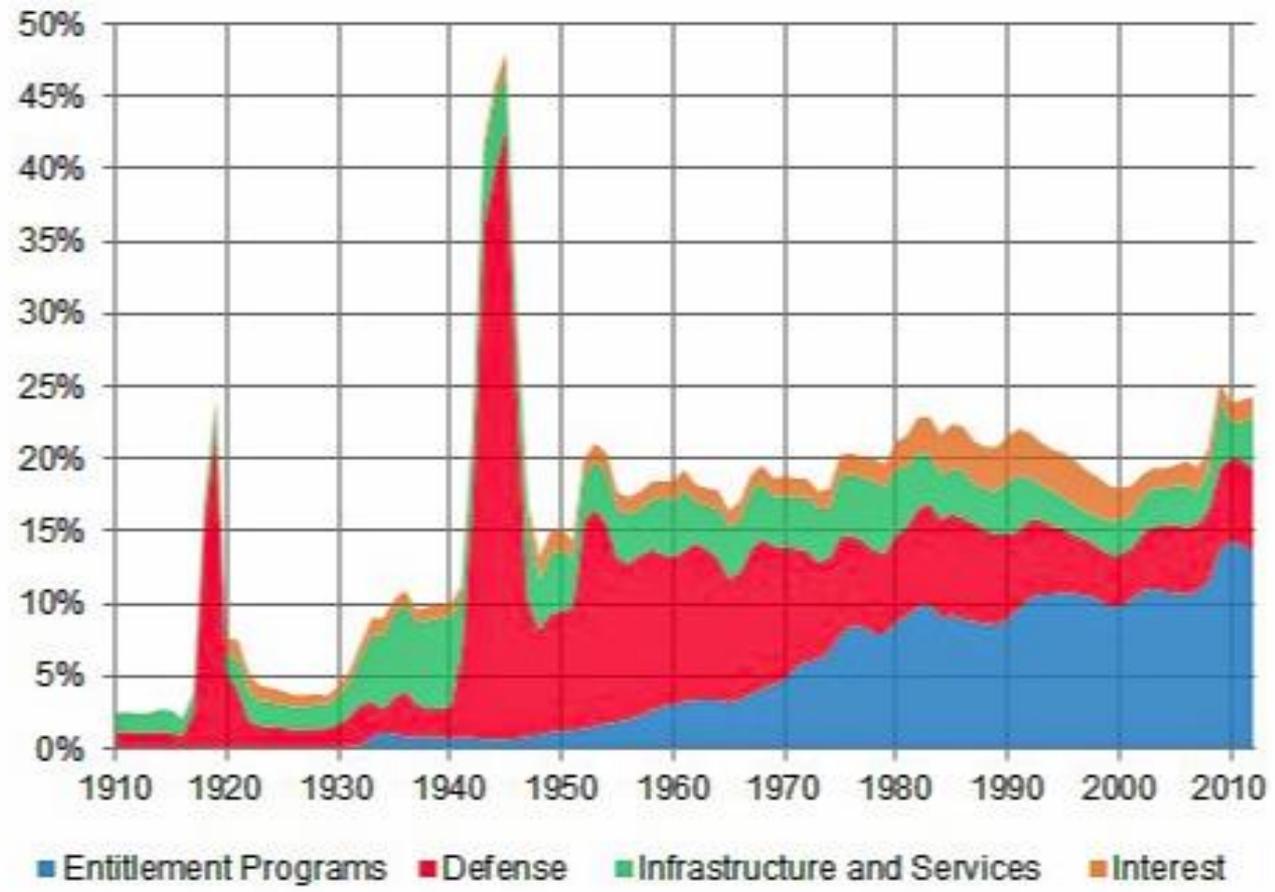


What Is Driving Growth in Government Spending?

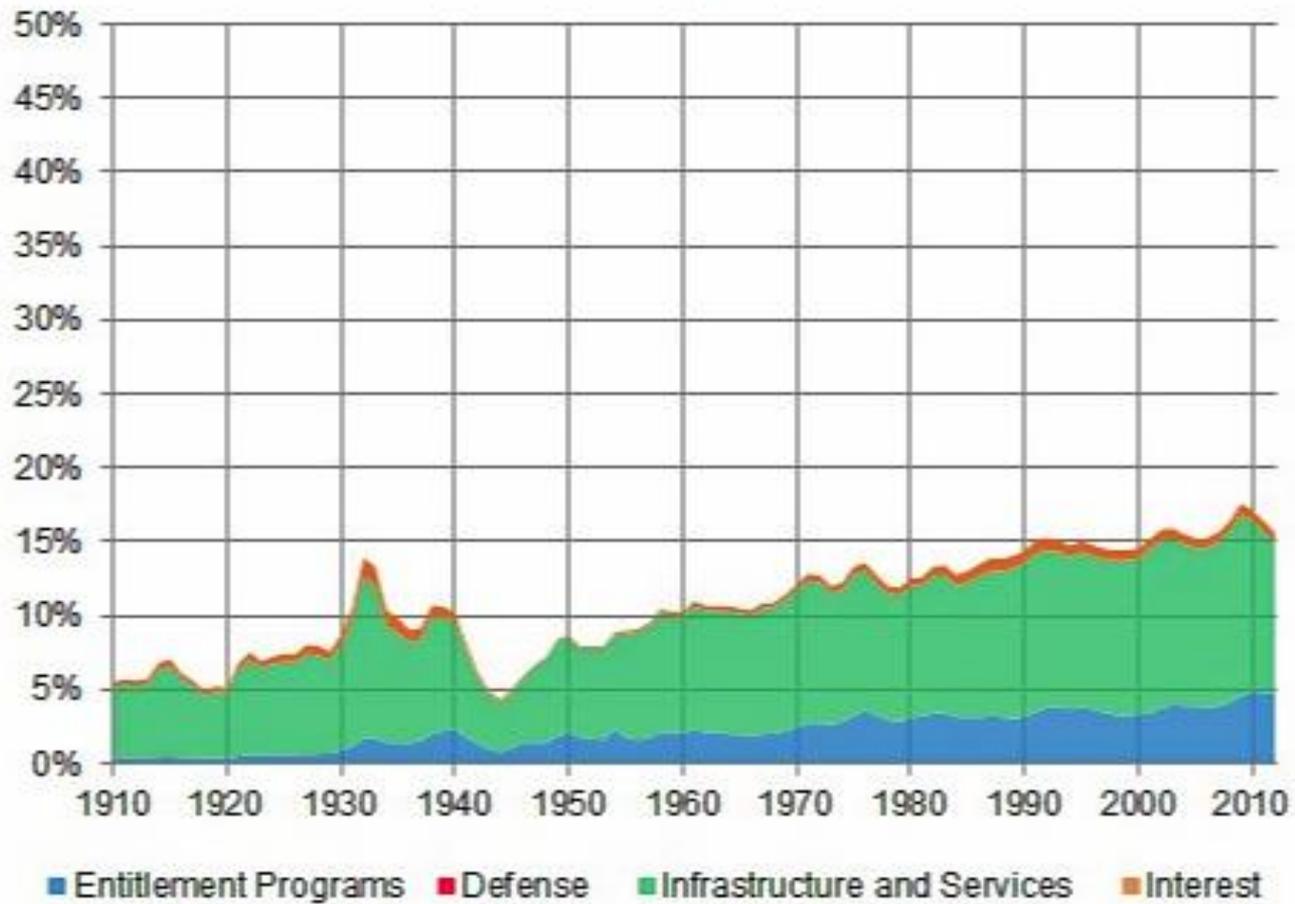
By NATE SILVER JANUARY 16, 2013 1:06 PM [271 Comments](#)

1. Entitlement programs – social security, Medicare, Medicaid, Food stamps, unemployment
2. Military spending
3. Interest on the debt
4. Infrastructure and services – education, criminal justice, science, technology

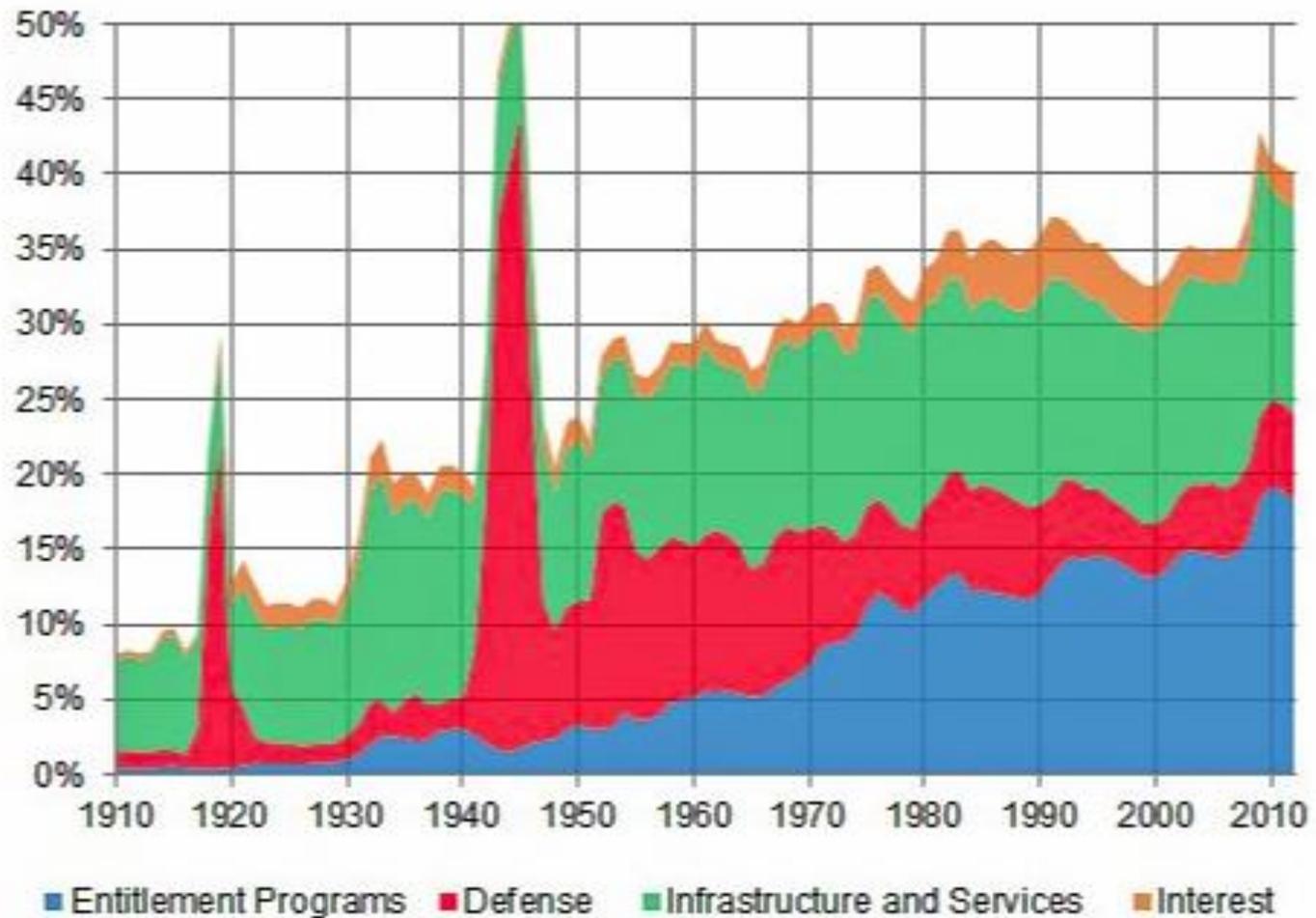
Federal Government Spending as Share of GDP



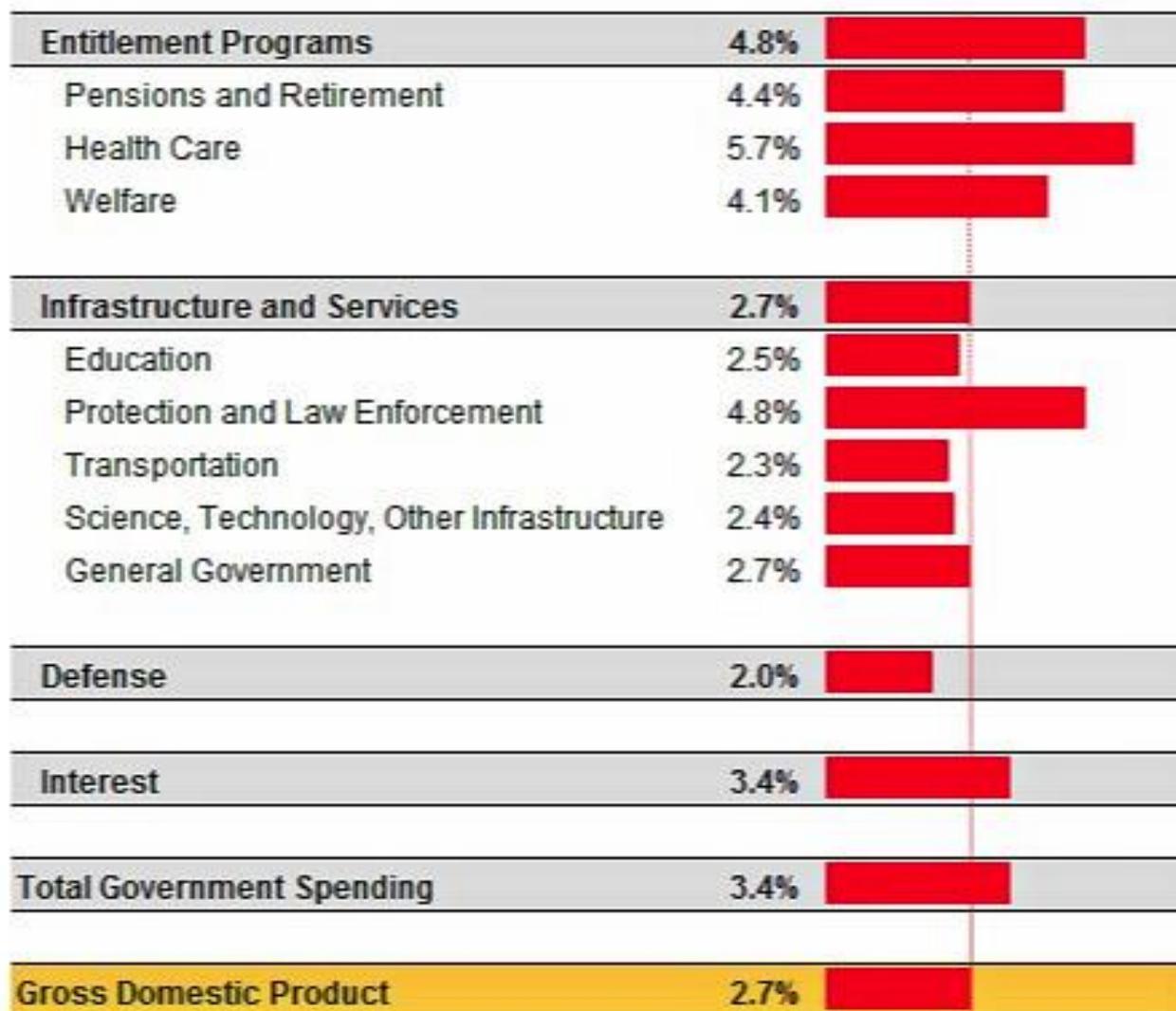
State & Local Government Spending as Share of GDP



Total Government Spending as Share of GDP



Total Government Spending Annualized Growth Rate, 1972-2011



Empirical Evidence for Policy Analysis

- Economics and other disciplines can give us theoretical predictions which is helpful
- But for more informative policy analysis we need numbers, specifics
 - How does UI affect the length of unemployment?
 - How does SNAP affect nutrition and obesity?
- Empirical policy evaluation: DEF “the use of data and statistical methodologies to measure the impact of government policy on individuals and markets”
- Fundamental challenge: disentangling causality from correlation
 - Correlated: move together
 - Causal: one of the variables causes movement in another

MEET KALE:



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Suppose we read that:

Kale eaters have lower
cholesterol

Kale eaters have a lower risk
of diabetes

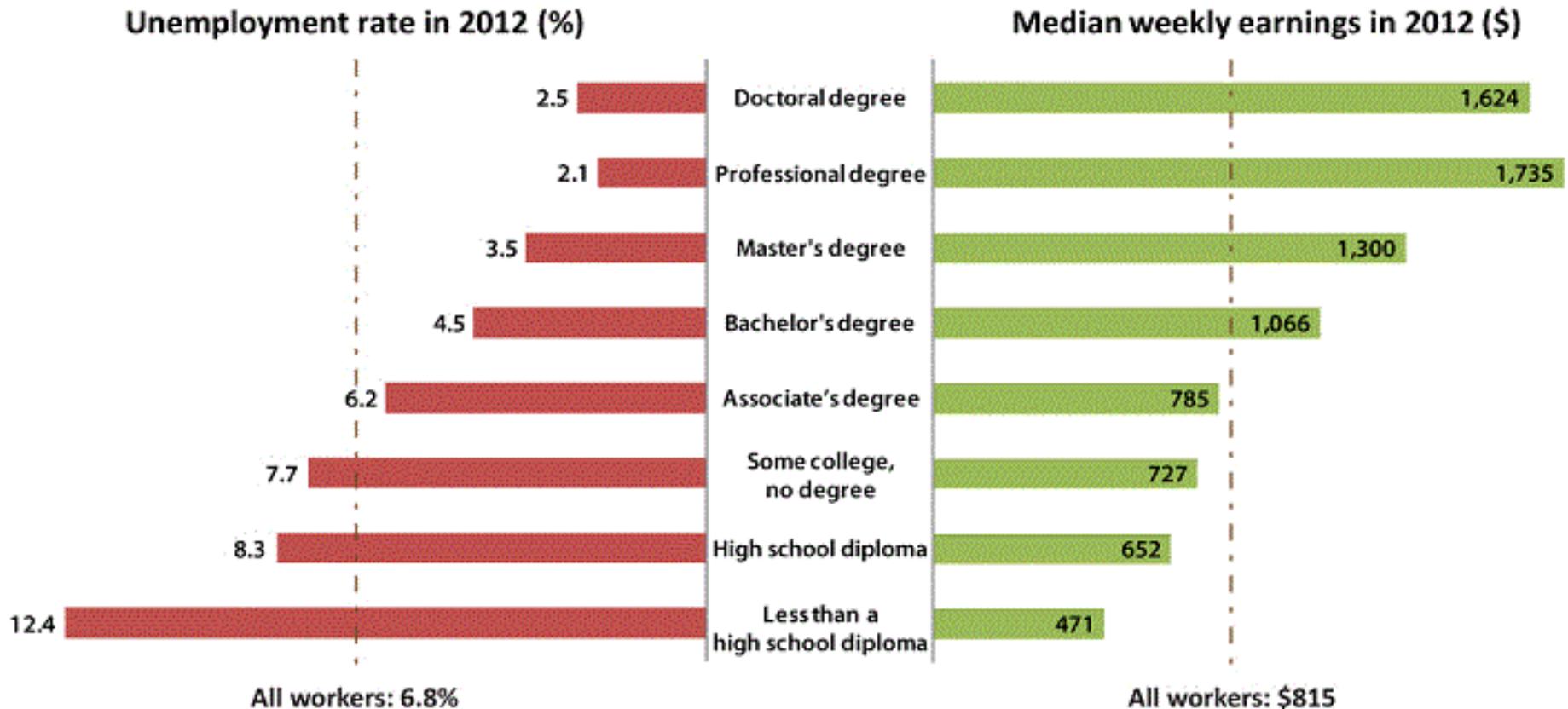
Correlation?

Causation?

How might we test for the
difference?

Or, how does schooling affect earnings?

Earnings and unemployment rates by educational attainment



Source: Bureau of Labor Statistics, Current Population Survey

Challenges to causal identification in analyzing education and earnings

- “ability bias” – part of the observed relationship between education and earnings may be due to the fact that those who are more able choose higher education levels
- For policy analysis we want to isolate the causal channel – to answer the question if we encouraged higher education levels (e.g., Obama policy proposal for making community college free) what would we expect the gains to be?
- Identification problem

How are things difficult within our subject area

- A broad class of our evaluation problems aim to estimate the effect of program participation on outcomes
- Ex: Effect of SNAP participation on health
- Means tested programs (e.g. SNAP) serve people in need (e.g. low resources)
 - As a result it is empirically difficult to disentangle the (presumably positive) impact of SNAP from the (presumably negative) impact of the circumstances that made a family eligible for the program
 - Selection bias → here bias is negative (estimated effect is smaller than the true effect [absolute value of])

TABLE 5.2
Summary statistics for NHIS, adults (age eighteen and older)

	<i>Full sample</i>	<i>SNAP</i>	<i>No SNAP</i>
Age	45	41	46
MARITAL STATUS:			
Married now	0.57	0.28	0.59
Widowed/divorced/separated	0.18	0.36	0.18
Never married	0.23	0.36	0.23
COMPLETED EDUCATION:			
High school dropout	0.16	0.4	0.15
High school graduate/GED	0.29	0.33	0.29
More than high school	0.52	0.26	0.54
SELF-RATED HEALTH:			
Excellent/very good	0.62	0.34	0.63
Good	0.26	0.31	0.26
Fair/poor	0.12	0.34	0.11
FAMILY MEMBER LIMITED:			
Any	0.26	0.54	0.25
Number	0.33	0.76	0.31
CHILD IN SPECIAL EDUCATION OR WITH OTHER DEVELOPMENTAL DELAY:			
Any	0.09	0.17	0.09
No child in family	0.61	0.41	0.62
HEALTH CARE USE IN FAMILY LAST TWO WEEKS:			
At least one doctor visit	0.34	0.43	0.34
Number of persons in hospital overnight	0.23	0.39	0.22
HEALTH CARE USE IN FAMILY LAST YEAR:			
At least someone needed care could not afford	0.1	0.25	0.1
N	922,970	45,293	855,514

SOURCE: Author's calculations using NHIS data.

Source: Bitler "The Health and Nutrition Effects of SNAP" in SNAP Matters

TABLE 5.3
Summary statistics for NHIS, children (age zero to seventeen)

	<i>Full sample</i>	<i>SNAP</i>	<i>No SNAP</i>
Age	8.5	7.6	8.6
Under five	0.28	0.33	0.27
Family number of children	2.5	2.9	2.4
MOTHER'S COMPLETED EDUCATION:			
High school dropout	0.15	0.36	0.13
High school graduate/GED	0.25	0.3	0.24
More than high school	0.52	0.26	0.55
Missing	0.08	0.08	0.07
FATHER'S COMPLETED EDUCATION:			
High school dropout	0.11	0.16	0.11
High school graduate/GED	0.2	0.13	0.21
More than high school	0.41	0.09	0.45
Missing	0.27	0.62	0.24
SELF-RATED HEALTH:			
Excellent/very good	0.82	0.7	0.84
Good	0.16	0.26	0.15
Fair/poor	0.02	0.05	0.02

Source: Bitler "The Health and Nutrition Effects of SNAP" in SNAP Matters

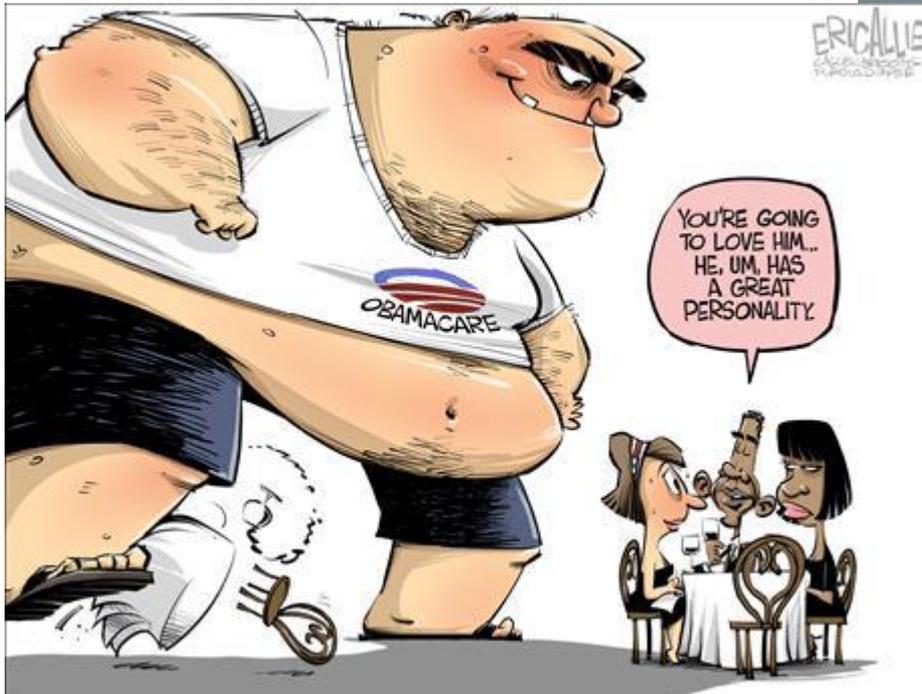
TABLE 5.4
Health conditions for adults on and off SNAP

	<i>SNAP</i>	<i>No SNAP</i>
Height (inches)	67	68
Weight (pounds)	185	178
BED DISABILITY DAYS IN THE LAST YEAR:		
None	0.51	0.63
One to seven	0.28	0.29
Eight to thirty	0.1	0.05
Thirty-one to 180	0.1	0.023
181 or more	0.02	0.004
Missing	0.03	0.01
DIAGNOSED WITH/HAS HEALTH CONDITION:		
ADD ever	0.07	0.03
Asthma ever	0.19	0.1
Asthma still	0.12	0.05
Vision problem	0.18	0.09
Blind	0.01	0.004
Chronic bronchitis	0.1	0.04
Diabetes	0.12	0.07
Heart attack	0.12	0.03
Stroke	0.05	0.02
Ulcer	0.13	0.07

Source: Bitler “The Health and Nutrition Effects of SNAP” in SNAP Matters

- How might we solve this *identification problem*?
- How to obtain the *causal* estimates we want for policy analysis?
- If it is feasible, one might use a randomized control trial RCT
- But we don't always have RCTs to use as evidence
- Observational data. DEF: data from individual behavior observed in the real world (not collected as part of your RCT)
- In addition to RCTs, we need to understand how to get high quality evidence out of observational data

Motivating example



Obamacare

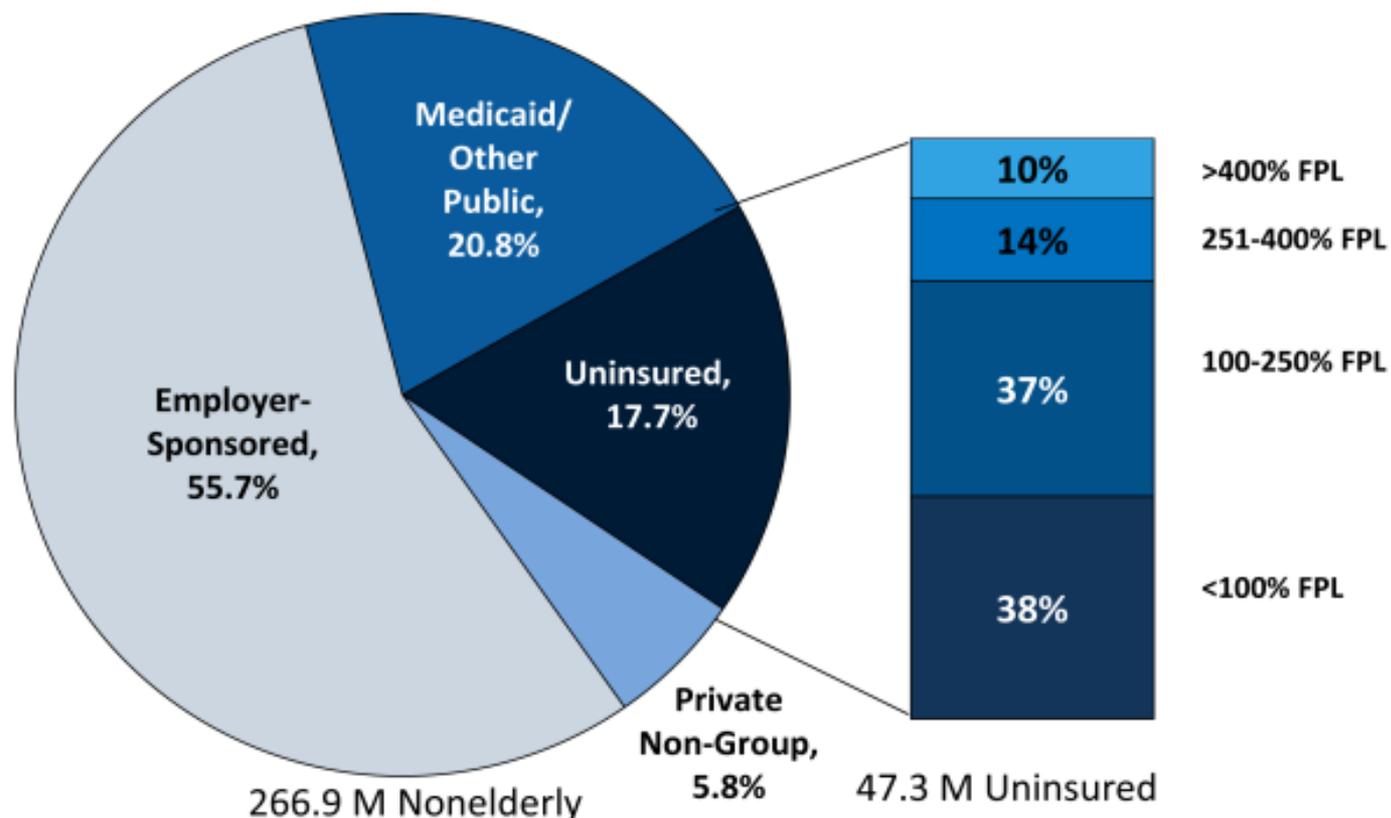
- Or, the Affordable Care Act
- What is the ACA?
 - Personal responsibility: penalties for NOT having health insurance
 - Expanding Medicaid and providing subsidies for private insurance to increase health insurance coverage
 - Requiring private health insurance to cover children through age 26
- Suppose we want to answer the following question:
how does health insurance affect health outcomes?

A naïve estimate of the effect of health insurance

- How about we collect data and compare outcomes of people with health insurance to people without health insurance?
- How might that be biased? Why?

Figure 1

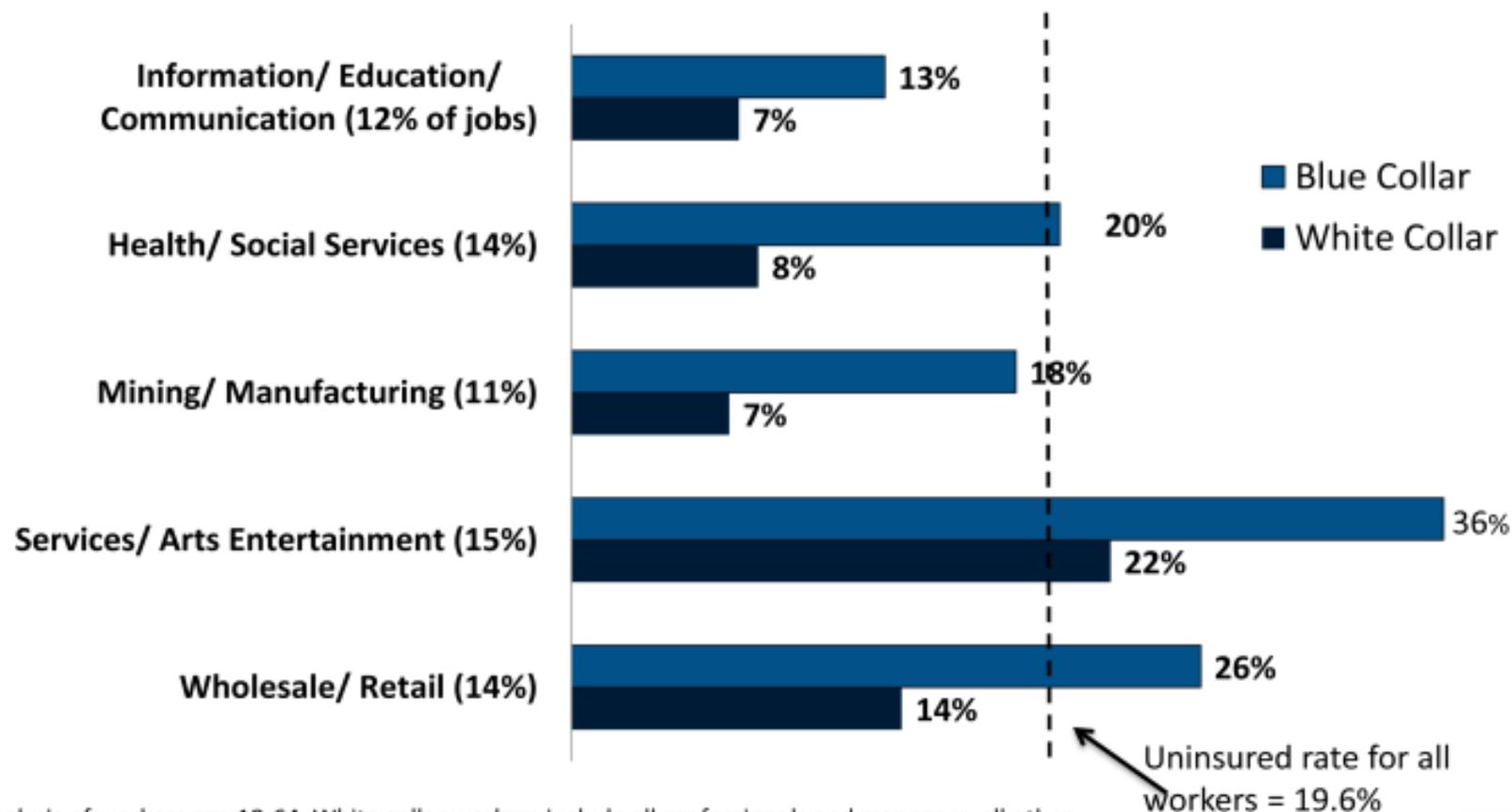
The Uninsured Population—As a Share of the Nonelderly Population and by Poverty Levels, 2012



Medicaid and other public coverage includes: CHIP, other state programs, Medicare and military related coverage. The federal poverty level for a family of four in 2012 was \$23,050.

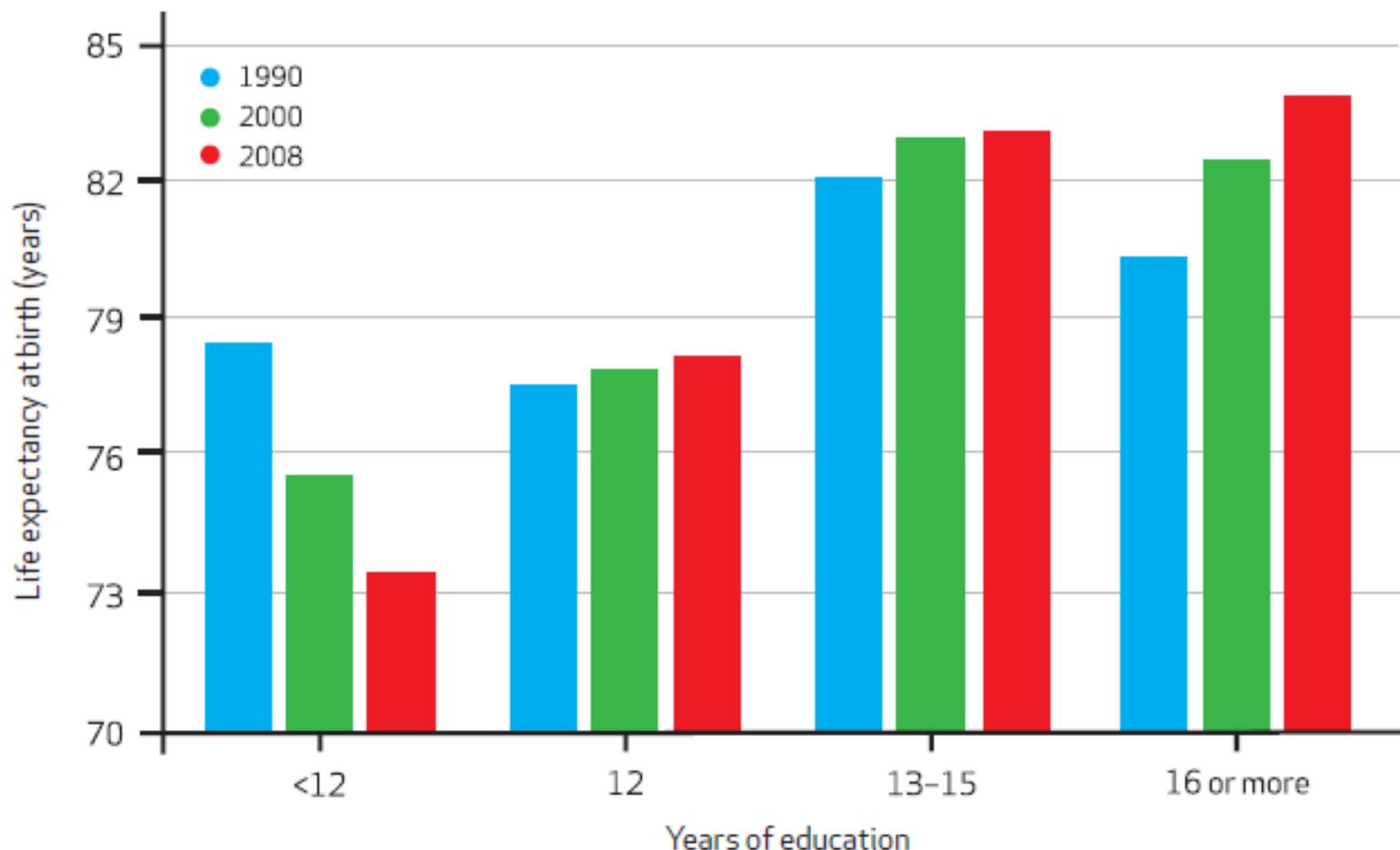
SOURCE: KCMU/Urban Institute analysis of the 2013 ASEC supplement to the CPS.

Uninsured Rates Among Selected Industry Groups, White vs. Blue Collar Jobs, 2012



Analysis of workers age 18-64. White collar workers include all professionals and managers; all other workers classified as blue collar.

SOURCE: KCMU/Urban Institute analysis of 2013 ASEC Supplement to the CPS.

EXHIBIT 2**Life Expectancy At Birth, By Years Of Education At Age 25 For White Females, 1990-2008**

SOURCE Authors' analysis of data from the National Vital Statistics System and the Census Bureau (Notes 24-26 in text).

Empirical Approaches to evaluate the effect of health insurance on health outcomes

1. Compare those with health insurance to those without health insurance. *Cross-Sectional*
2. Compare outcomes before and after the introduction of Medicaid (1970s) *Time-Series*
3. Use the recent variation across states in their expansions of Medicaid for children *Difference in difference*
4. Compare those just eligible and not eligible for Medicaid *Regression Discontinuity*
5. Randomized experiment using “lottery design” *RCT*

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5. **Randomized experiment using “lottery design” RCT**

The fundamentals of an RCT

- Identify the population of interest, and create your experimental sample drawn from that population
- RANDOMLY select one group to obtain the treatment and the other to not get the treatment
 - Treatment group
 - Control group
- Difference in mean outcomes between treatment and control group = $\bar{Y}_1 - \bar{Y}_0$ is the experimental effect of the treatment

Treated	\bar{Y}_1		
Control	\bar{Y}_0		
Difference	$\bar{Y}_1 - \bar{Y}_0$		

Regression version of RCT

$$y_i = \alpha + \delta T_i + X_i \beta + \varepsilon_i$$

- δ is the treatment effect
- Adding X s increases the precision, but if it is a well done experiment, then it should not have much impact on the estimated treatment effect.

Examples of RCTs in policy analysis

- Lottery designs: used in the evaluation of Charter Schools, Head Start, Moving to Opportunity, Oregon Medicaid Experiment
 - Announce a new program and invite people to sign up. If the signups exceed the total number of slots then you randomly assign one group to get the program, and one group does not
- Experiments on existing groups: used in welfare reform experiments
 - Randomly assign welfare recipients in several counties into a treatment group (who faces new rules) and a control group (who stays on the old rules)
- Village designs: used in many developing country contexts (e.g. Progressa in Mexico)
 - Identify a set of villages for the treatment, then match to a set of “similar” villages who are the controls.

Empirical Approaches to evaluate the effect of health insurance on health outcomes

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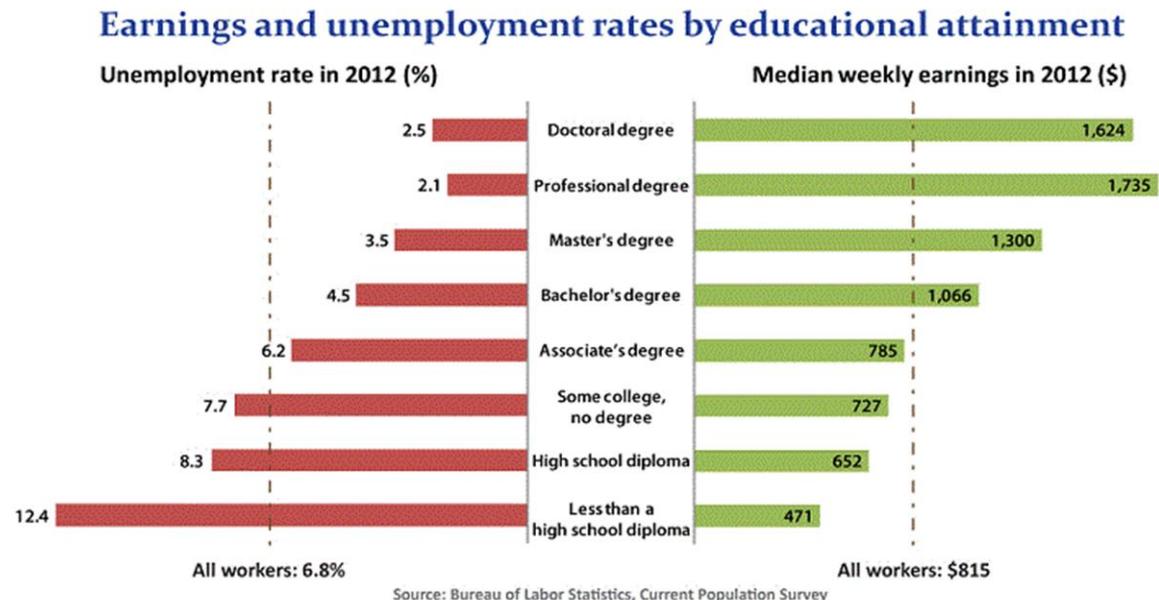
Cross Sectional Approach

1. Take the most recent data and compare those with health insurance to those without health insurance.
- Using this approach, we would take the difference in health outcomes as the effect of insurance (T here is having health insurance)
 - What might be wrong with this?

$$y_i = \alpha + \delta T_i + X_i \beta + \varepsilon_i$$

Questions to ask in evaluating the quality of evidence

- Do the “treatment” and “control” groups differ for reasons other than the treatment?
- Bias: any source of difference between the T and C that is correlated with the treatment but is not due to the treatment



Lesson 1: Concerns about Cross Sectional Analysis

- DEF: comparing across individuals at a point in time
- Compare T and C at a single point in time
- Remember the key question: “Do the “treatment” and “control” groups differ for reasons other than the treatment?”
- There could be a third factor that affects both
- Bias, selection into treatment

Empirical Approaches to evaluate the effect of health insurance on health outcomes

1. Compare those with health insurance to those without health insurance. *Cross-Sectional*
2. Compare outcomes before and after Medicaid is introduced as a new policy (1970s) *Time-Series*
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Time-Series Approach

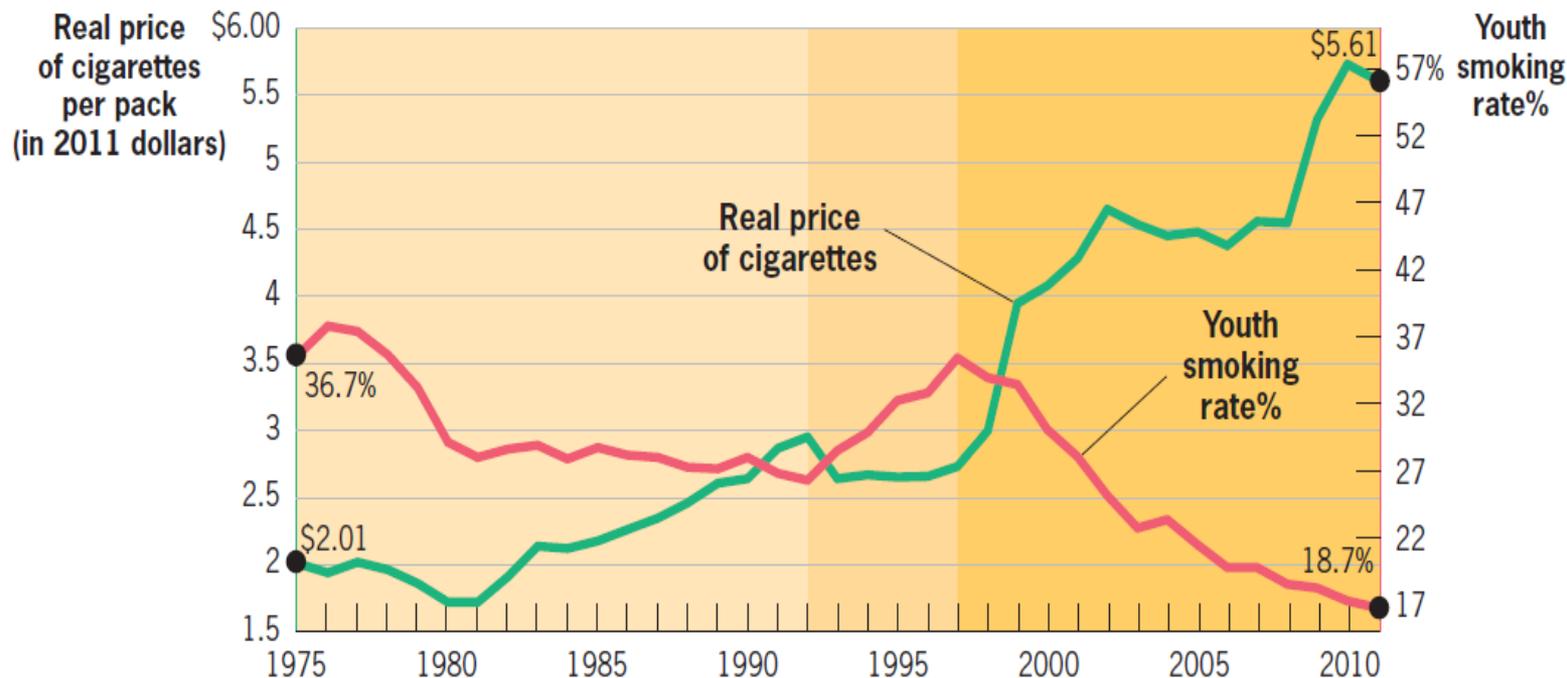
2. Compare outcomes before and after Medicaid is introduced as a new policy (1970s)
 - Using this approach, we would take the difference in health outcomes as the effect of insurance
 - What might be wrong with this?

$$y_t = \alpha + \delta AFTER_t + X_t\beta + \varepsilon_t$$

Lesson 2: Concerns about Time-Series Analysis

- DEF: comparing across different time periods
- Remember the key question: “Do the “treatment” and “control” groups differ for reasons other than the treatment?”
- Here the analog is treatment= after period and control = before period
- There could be a third factor that affects both? Are there other factors leading to changes over time other than the treatment?
- Sharp time changes tend to generate better evidence

Example from Gruber reading: When Is Time Series Analysis Useful? Cigarette Prices and Youth Smoking



- Sharp, simultaneous changes in prices and smoking rates in 1993 and 1998–onward
- Known causes: price war, tobacco settlements

Empirical Approaches to evaluate the effect of health insurance on health outcomes

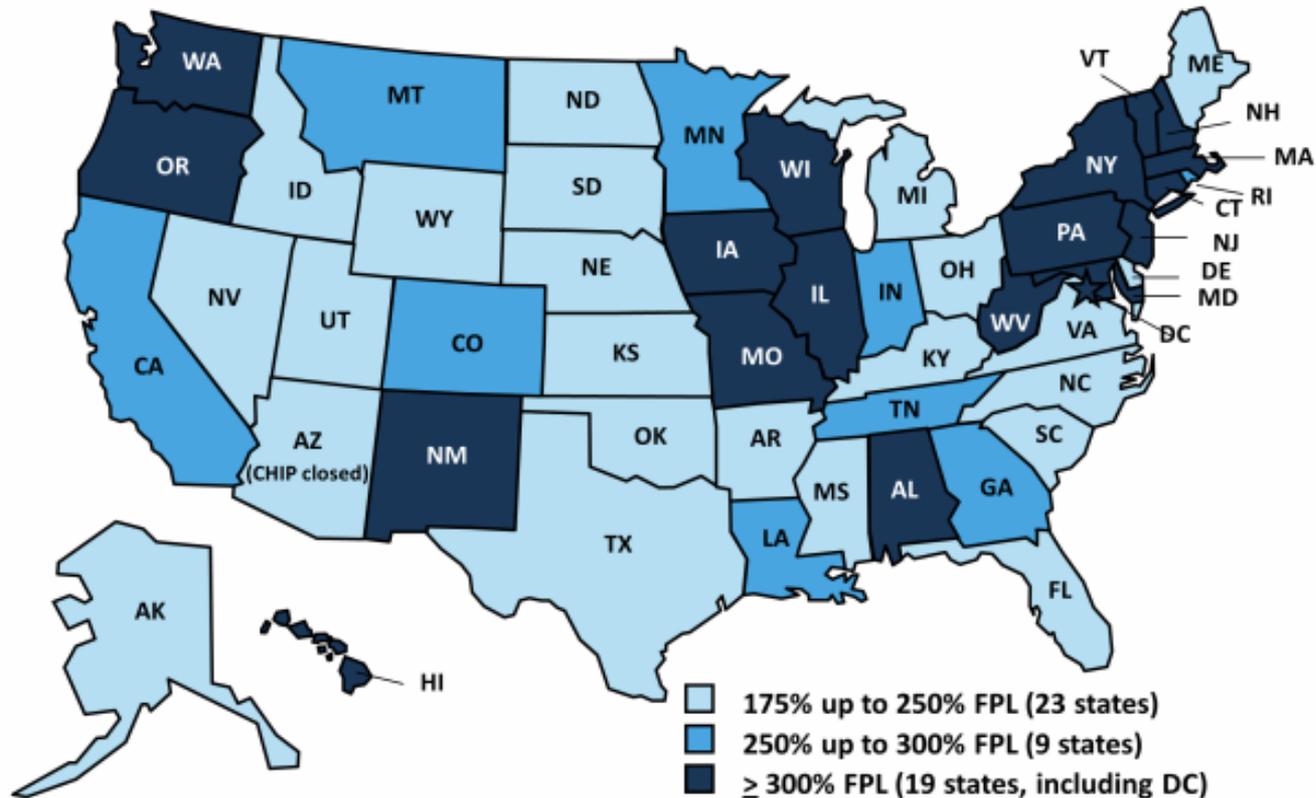
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3. Use variation across states in their expansions of Medicaid for children *Difference in difference*
4. Compare those just eligible and not eligible for Medicaid *Regression Discontinuity*
5. Randomized experiment using “lottery design” *RCT*

3. Use variation across states in their expansions of Medicaid for children

Use “the laboratory of the states”

Figure 4

Income Eligibility Levels for Children in Medicaid/CHIP, January 2015



NOTE: The federal poverty level (FPL) for a family of three in 2015 is \$20,090. Thresholds include an income disregard equal to five percentage points of the FPL.

SOURCE: Based on results from a national survey conducted by the Kaiser Commission on Medicaid and the Uninsured and the Georgetown University Center for Children and Families, 2015.

3. Use variation across states in their expansions of Medicaid for children
 - We get data at the state level and over time (panel data)
 - Relate changes in outcomes across states to the changes in Medicaid and SCHIP that occurred

Lesson 3: Quasi-experiments or “natural experiments” can be helpful

- DEF: Changes in the economic environment create nearly identical T and C groups.
- Creates *pseudo RCT* setting (hence “natural” experiment)
- Randomization due to external forces
- Example: policy change in one place but not another. Or policy change for one group and not another.
- Typically compare CHANGES over time in a T compared to changes in the C

Difference in Difference Estimator

	Before	After	Difference
Treated	\overline{Y}_{10}	\overline{Y}_{11}	$\overline{Y}_{11} - \overline{Y}_{10}$
Control	\overline{Y}_{00}	\overline{Y}_{01}	$\overline{Y}_{01} - \overline{Y}_{00}$
Difference-in-difference	$(\overline{Y}_{11} - \overline{Y}_{10}) - (\overline{Y}_{01} - \overline{Y}_{00})$		

- Difference in outcomes for treated area: $\overline{Y}_{11} - \overline{Y}_{10}$
- Difference in outcomes for control area: $\overline{Y}_{01} - \overline{Y}_{00}$
- Difference-in-difference = $(\overline{Y}_{11} - \overline{Y}_{10}) - (\overline{Y}_{01} - \overline{Y}_{00})$
- Better, but only as good as the control is. They are to proxy for what would have happened if there was no treatment.
- Combine ideas in cross-section and time series

$$y_i = \alpha + \delta T_i + X_i \beta + \varepsilon_i$$

$$y_t = \alpha + \delta AFTER_t + X_t \beta + \varepsilon_t$$

$$y_{it} = \alpha + \gamma AFTER_{it} + \theta T_{it} + \delta AFTER_{it} T_{it} + X_{it} \beta + \varepsilon_{it}$$

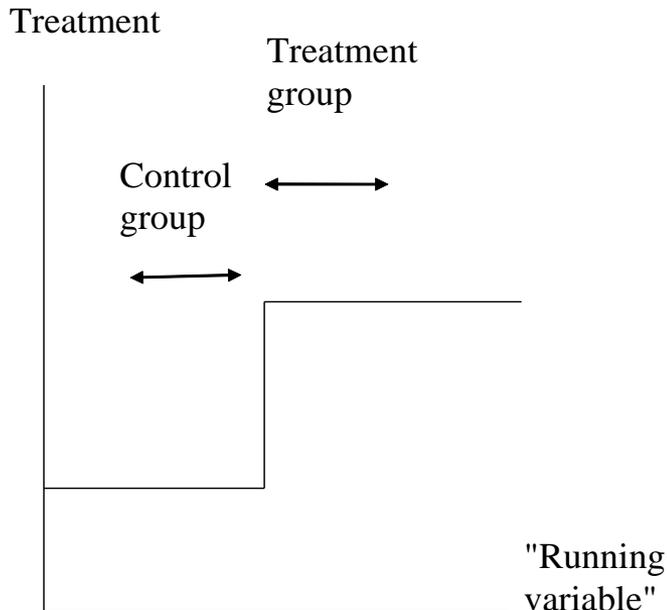
- Difference in difference, treatment effect is the interaction

Empirical Approaches to evaluate the effect of health insurance on health outcomes

1. Compare those with health insurance to those without health insurance. *Cross-Sectional*
2. Compare outcomes before and after Medicaid is introduced as a new policy (1970s) *Time-Series*
3. Use variation across states in their expansions of Medicaid for children *Difference in difference*
4. Compare those just eligible and not eligible for Medicaid *Regression Discontinuity*
5. Randomized experiment using “lottery design” *RCT*

5. Regression Discontinuity

- An extreme and sharp application of the difference in difference approach. Here, there is some underlying variable that determines the treatment. There is a sharp discontinuity in the treatment at some point. You then make a T and C groups on either side of the discontinuity.



The appeal in this approach is that the comparison groups are "close" to the treatment.

Examples:

Head start and economic outcomes
(poverty status of county)

Medicare (age)

Card et al, Medicare, RD on age 65

They ask how insurance affects health care utilization, health outcomes

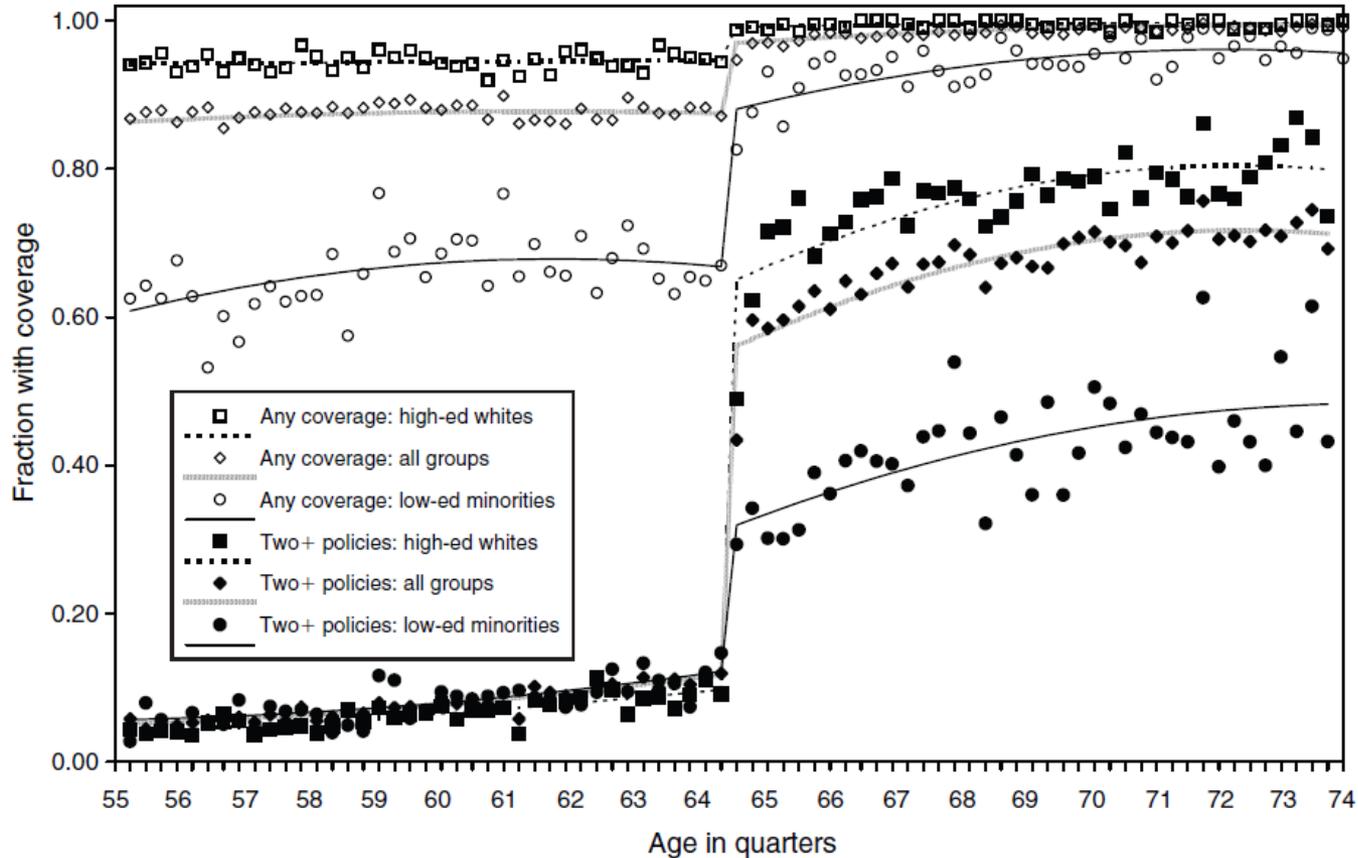


FIGURE 1. COVERAGE BY ANY INSURANCE AND BY TWO OR MORE POLICIES, BY AGE AND DEMOGRAPHIC GROUP

First stage: sharp increase in coverage; more for disadvantaged

- Estimates of δ (the treatment effect) come from a regression version of these figures
- Like the cross sectional model but controls for the “running” variable in a flexible way.
- Essentially you are trying to estimate the shift in the curve as you cross over the discontinuity
- You are creating T and C groups that are very similar to one another (e.g. 64 versus 66 years of age)

$$y_i = \alpha + \delta T_i + f(\text{age}_i) + X_i\beta + \varepsilon_i$$

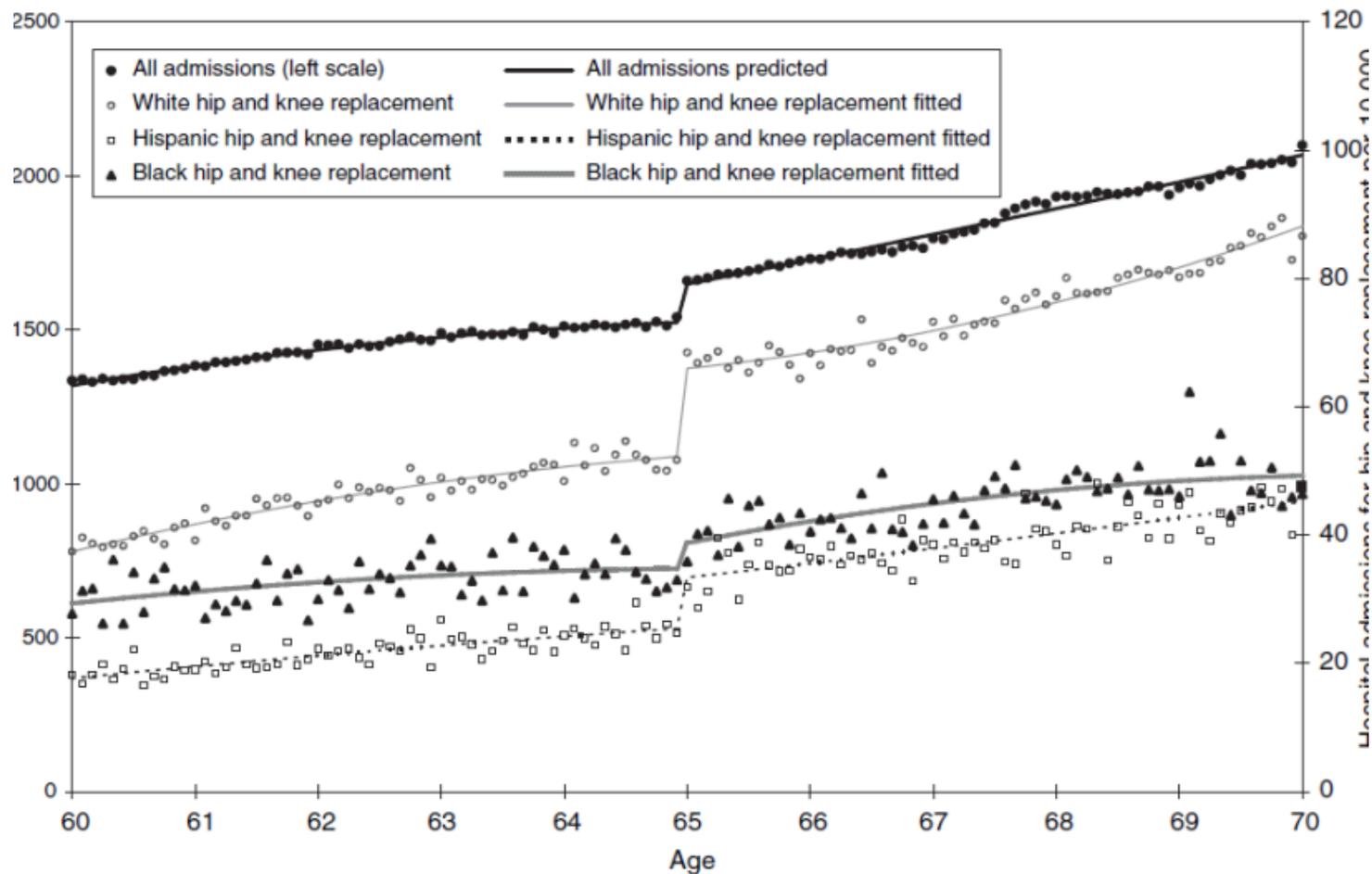


FIGURE 3. HOSPITAL ADMISSION RATES BY RACE/ETHNICITY

Health care utilization increases: Increase is driven by discretionary medical care, diagnostic heart treatments.

They use hospital discharge data and identify admissions that require immediate hospitalization (so it is not affected by the increase in insurance coverage)

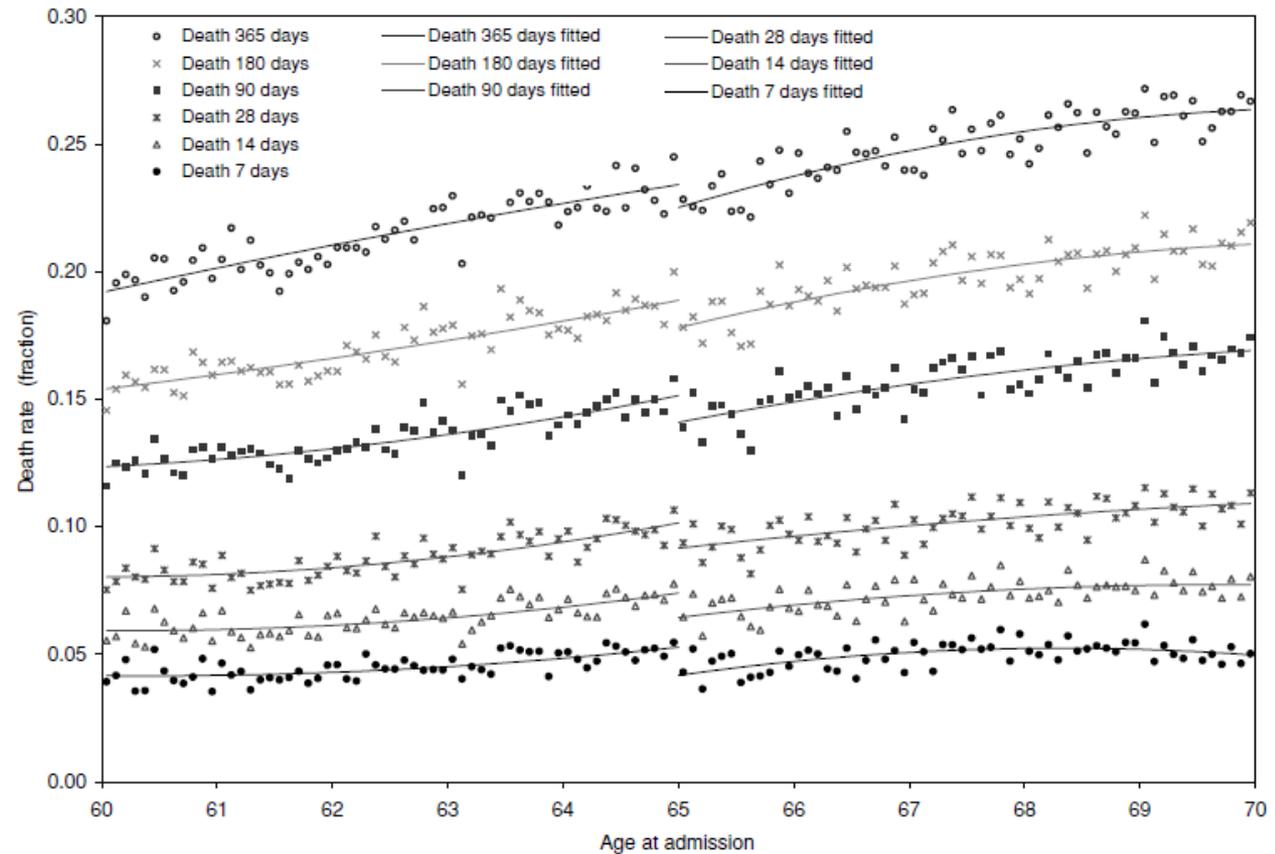


FIGURE VI
Patient Mortality Rates over Different Follow-Up Intervals

Nontrivial decrease in mortality

Caution: RD

- Not all discontinuities are good RDs
- Key: running variable can't be manipulated
- Good example: age, or date of birth (if determined prior to law change)
- Bad example: income (can manipulate to be above or below threshold)

Brief case study: Murnane Ch 2

- What is the setting in which they want empirical evidence?
 - Effect of school resources (class size, teacher qualifications, \$ per pupil) on student outcomes
- What kind of empirical approach does the Coleman Report take? (1968 report by Sociologist James Coleman)
 - Cross sectional
- What were the findings?
 - School outcomes were worse among black children AND school resources explained none of those differences!
- Why might these findings be biased?
- IES: Goal is to fund high quality RCT in education research

Poverty Measurement

Hilary Hoynes

PP290

Lecture outline

1. Types of poverty measures
2. History of U.S. official poverty measure
3. Details of U.S. official poverty measure
4. The facts, for 2014
5. Limitations of U.S. official poverty measure
6. The Supplemental Poverty Measure as an alternative
7. Other critiques of official poverty
 - Good measure of material wellbeing?
 - Underreporting in surveys



A White House Conversation on Child Hunger in America

**Join the conversation:
#SNAPworks**



 Dr. Elise Whitmore Schreyer



Secretary Vilsack

Deb Eschmeyer
Exec Dir Let's Move



Dennis McDonough
Chief of Staff



Cecilia Muñoz
Domestic Pol Counsel

Rep McGovern MA



2 basic elements to poverty measurement

1. Define a threshold
2. Define the resource measure

Then poor if resources $<$ threshold

Alternative ways to measure poverty

- Absolute
- Relative, OECD poverty is if below 50% median income
- Consumption
- Material deprivation

Alternative ways to measure poverty

- Absolute – basic needs standard, in principle this is fixed (if needs are fixed)
- Relative – comparative disadvantage, measured relative to an evolving standard of living (lower tail inequality), social exclusion
- Consumption
- Material deprivation – having lack off access to some things (food, heat, etc)

Tradeoffs in measures

- Absolute: conceptually easy, but how should the poverty line change as living standards change?
- Relative: OECD “since extreme hardship such as starvation is uncommon in advanced societies, absolute pov has little meaning;” yet by construction relative pov stays the same when the country gets (uniformly) richer? Or in recessions poverty could (mechanically) decrease
- Consumption: better measure of wellbeing? Captures other (non-income) resources? Deals with underreporting of income? Big data requirements

Poverty measurement in the U.S. – the timeline

- 1962 Michael Harrington, The Other America: Poverty in the U.S. influenced Kennedy's advisors
- Walter Heller, chairman of the CEA wanted to “launch a Kennedy offense against poverty”
- Robert Lampman CEA member wanted to devise a poverty measure that depended less on inequality and more on the amount to achieve a minimum living standard
- Johnson adopted Kennedy's emerging plan as his own. Jan 1964 War on Poverty speech in state of the union address
- Independently, Mollie Orshansky published an article in 1963 and 1965 in the Social Security Bulletin: two sets of poverty thresholds “economy level” and “low-cost level”
- OEO adopted the lower of her levels (economy food plan) and 1969 the Bureau of Budget (now OMB) released statistics -- \$3128 for a family of four

Poverty measurement in the U.S.

- Released by the U.S. annually since 1969
- “those whose basic needs exceed their means to satisfy them”
- Molly Orshansky an economist in the Social Security Administration developed the measure in 1963-64
- She took data from a 1955 USDA survey which measured a “food plan” deemed adequate for “temporary or emergency use when funds are low” (no eating out)
- At that time households spent 1/3 of their income on food
- → Poverty threshold was set at 3 times the dollar cost of the “economy food plan” (adjusted for family size)



What is the Official Poverty Measure?

- A family is poor if their cash family income is less than the federal poverty threshold
 - Poverty lines vary by family size and are adjusted for changes in prices each year
 - Based on the cost of food in the 1960s (multiplied by 3)
- Poverty is a *family* concept—all persons in the same family have the same poverty status
- Thresholds updated using CPI-U each year
- Other than updating for changes in prices each year, the official poverty definition has not changed since 1964!

What is the Official Poverty Measure?

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Poverty Thresholds by Family Type, 2014	
1 parent, 1 child	\$16,317
1 parent, 2 children	\$19,073
2 parents, 2 children	\$24,008

By comparison, median family income was \$53,657.

Poverty Thresholds for 2014 by Size of Family and Number of Related Children Under 18 Years

Size of family unit	Related children under 18 years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
One person (unrelated individual).....									
Under 65 years.....	12,316								
65 years and over.....	11,354								
Two people.....									
Householder under 65 years.....	15,853	16,317							
Householder 65 years and over.....	14,309	16,256							
Three people.....	18,518	19,055	19,073						
Four people.....	24,418	24,817	24,008	24,091					
Five people.....	29,447	29,875	28,960	28,252	27,820				
Six people.....	33,869	34,004	33,303	32,631	31,633	31,041			
Seven people.....	38,971	39,214	38,375	37,791	36,701	35,431	34,036		
Eight people.....	43,586	43,970	43,179	42,485	41,501	40,252	38,953	38,622	
Nine people or more.....	52,430	52,685	51,984	51,396	50,430	49,101	47,899	47,601	45,768

Source: U.S. Census Bureau.

Income and Poverty in the United States: 2014

Current Population Reports

By Carmen DeNavas-Walt and Bernadette D. Proctor

Issued September 2015

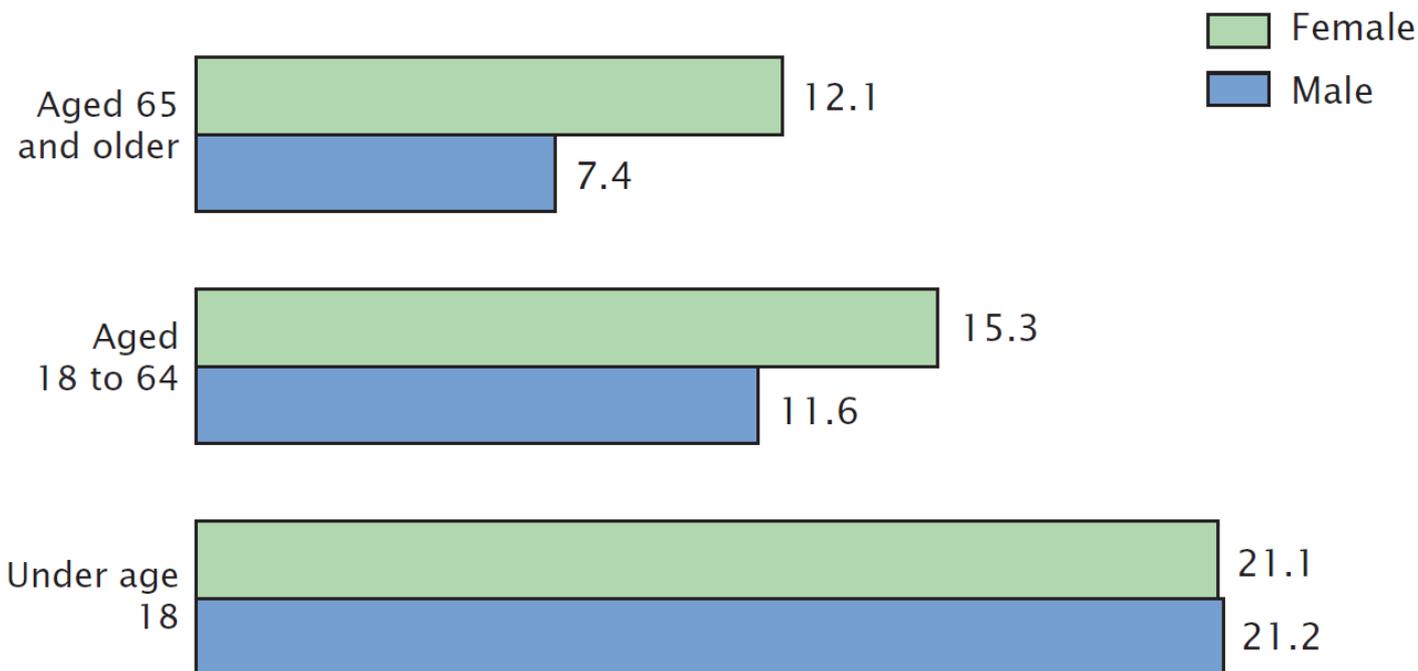
P60-252



United States™
Census
Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Figure 6.
Poverty Rates by Age and Sex: 2014
(In percent)



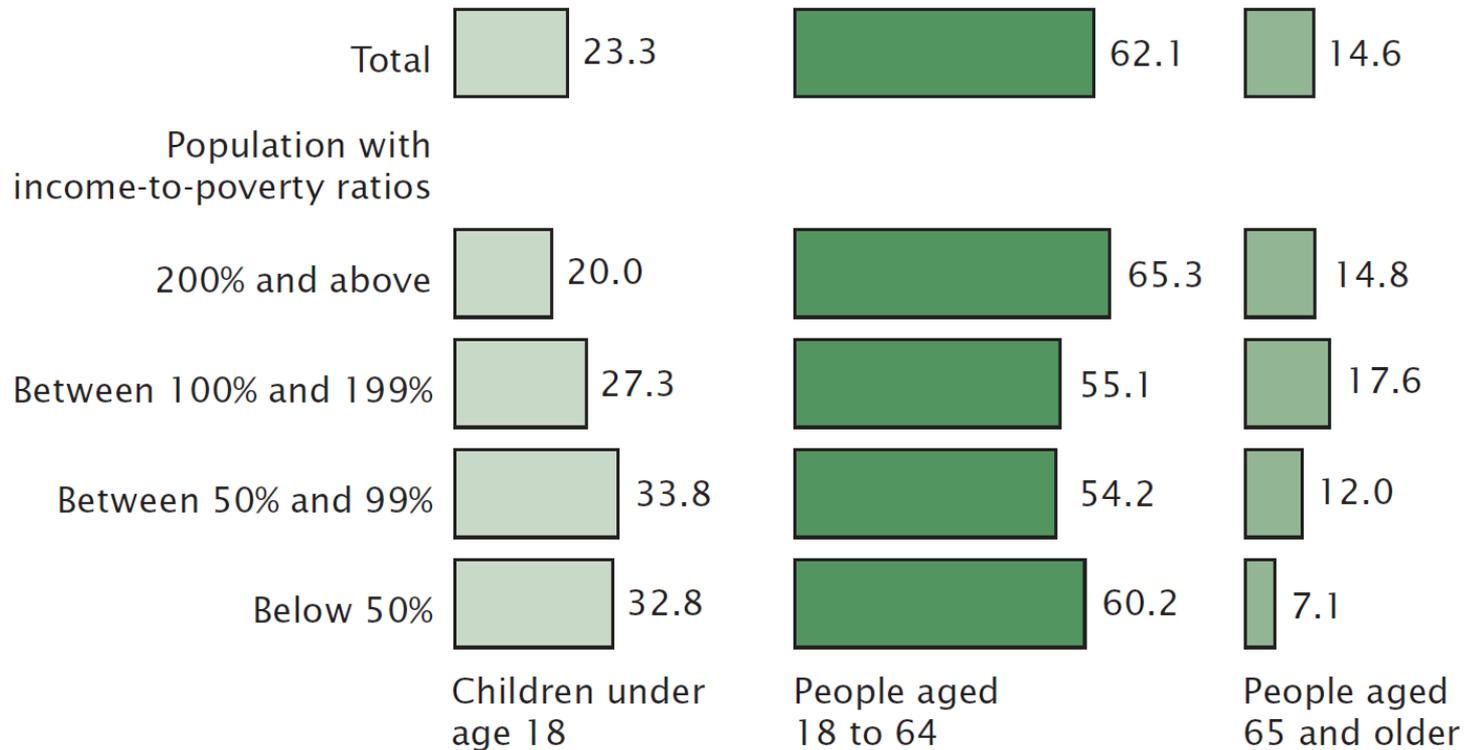
Note: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <<ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar15.pdf>>.

Source: U.S. Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplement.

Figure 7.

Demographic Makeup of the Population at Varying Degrees of Poverty: 2014

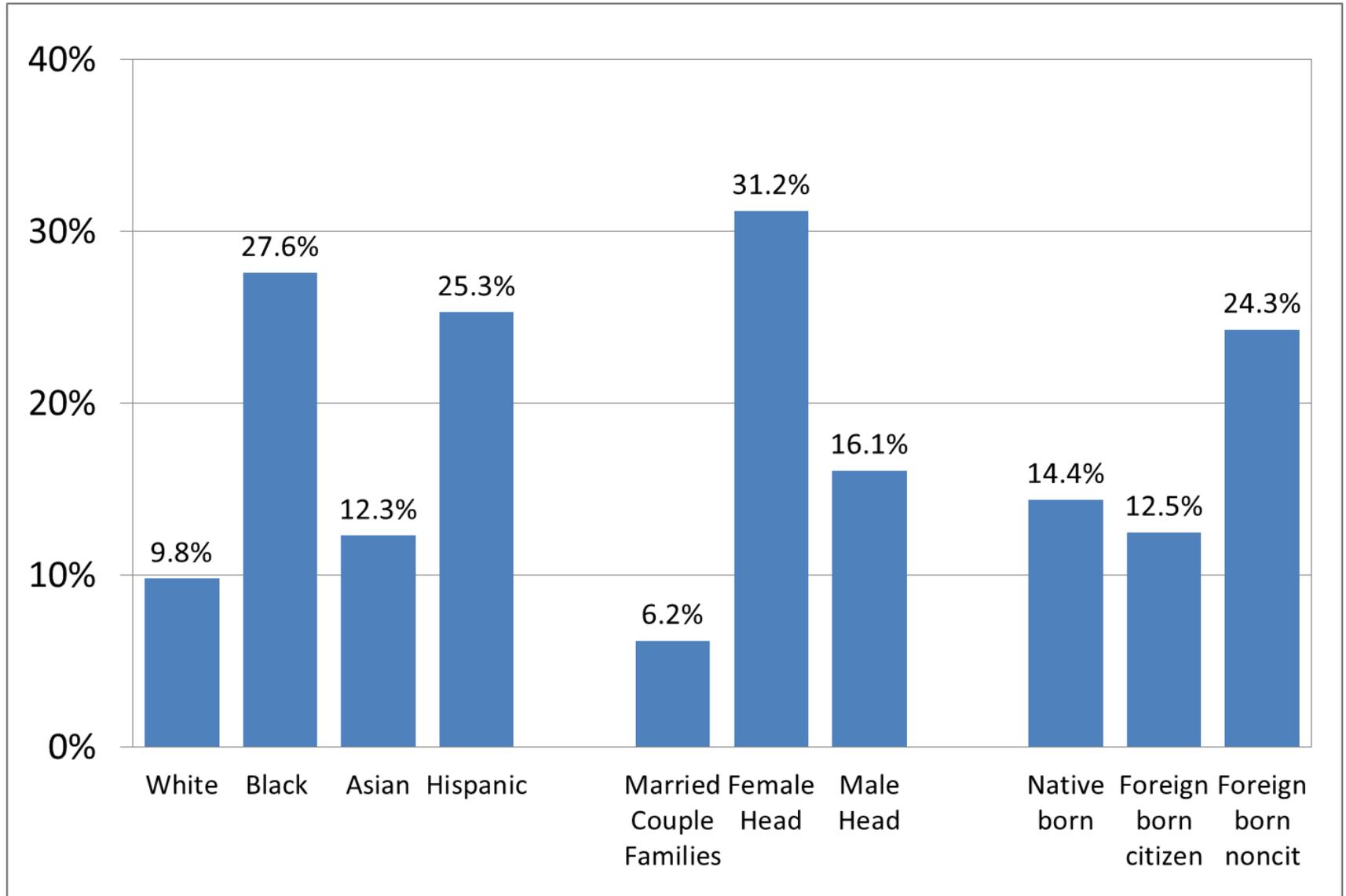
(In percent)



Note: For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar15.pdf>.

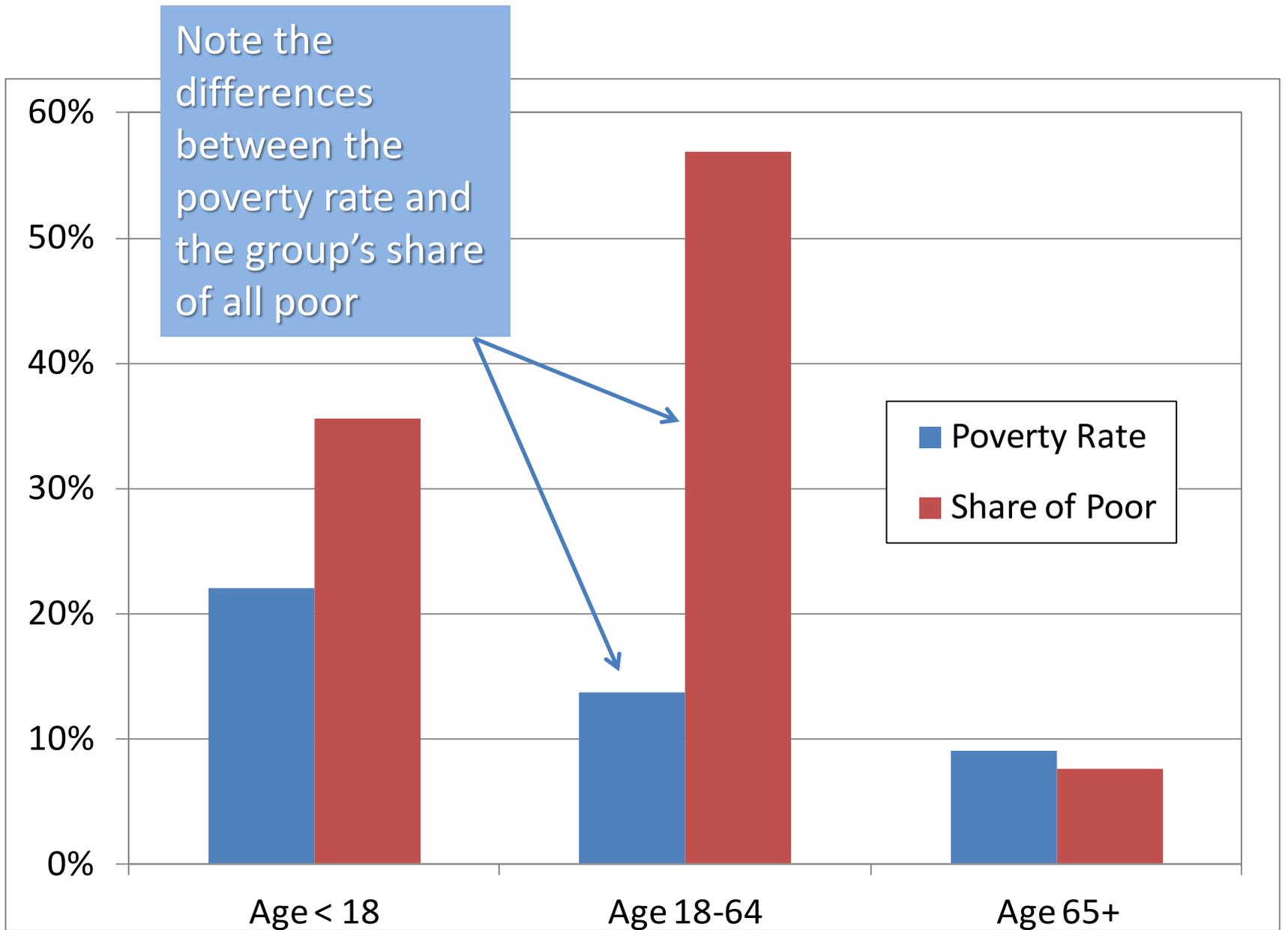
Source: U.S. Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplement.

Other important differences across groups



Use and abuse of statistics

- What is the difference between:
 - The majority of the poor are African American
 - African American's have a high poverty rate



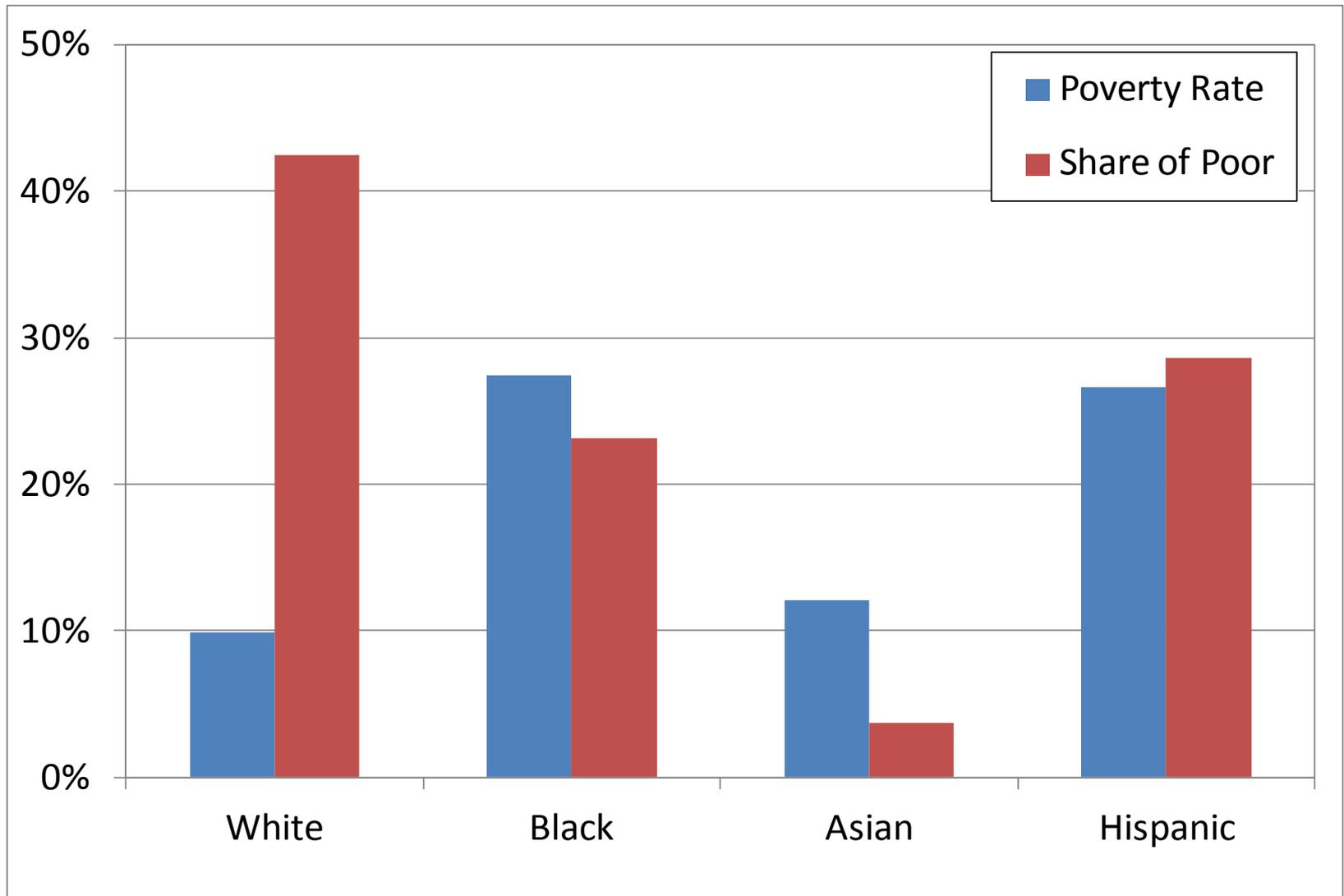
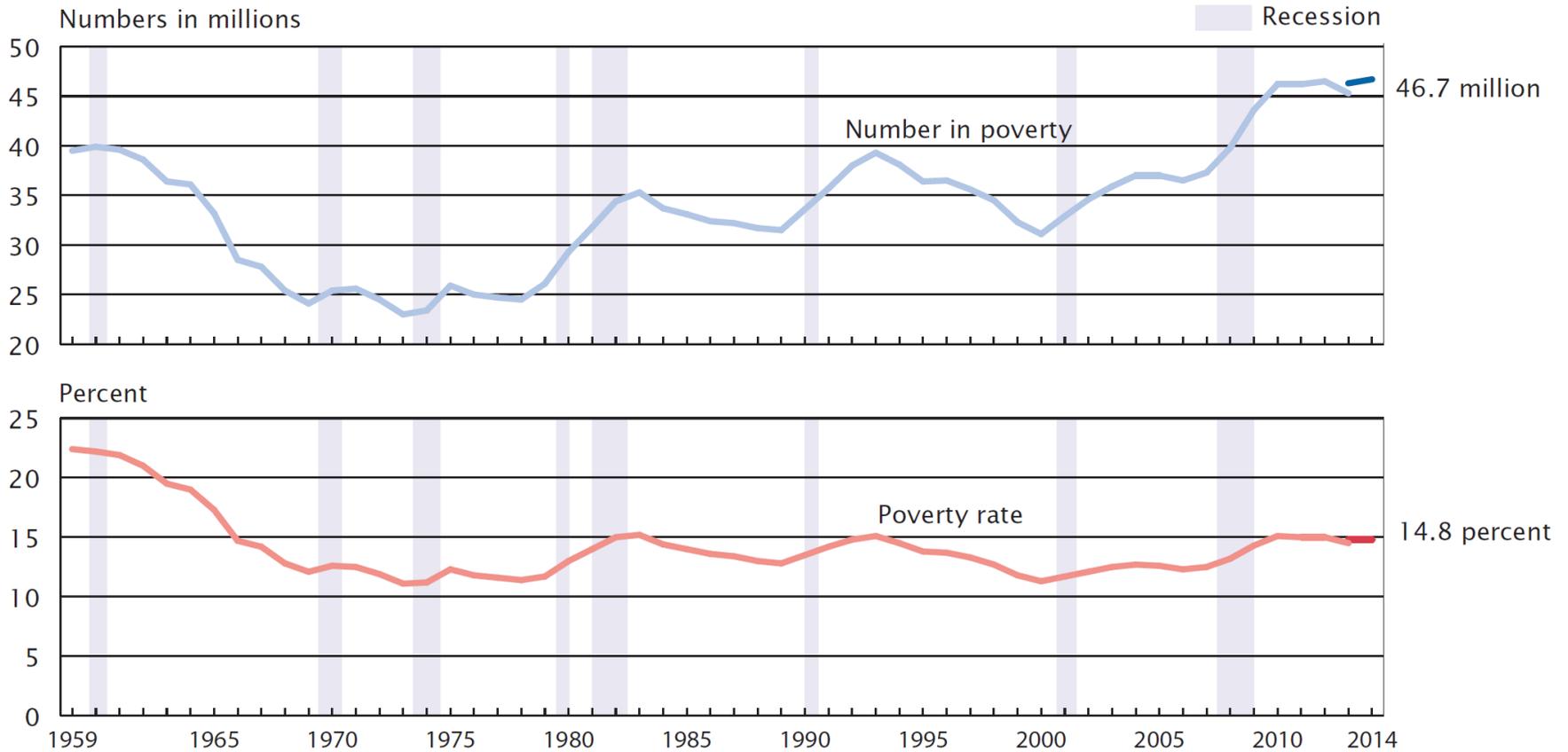


Figure 4.
Number in Poverty and Poverty Rate: 1959 to 2014



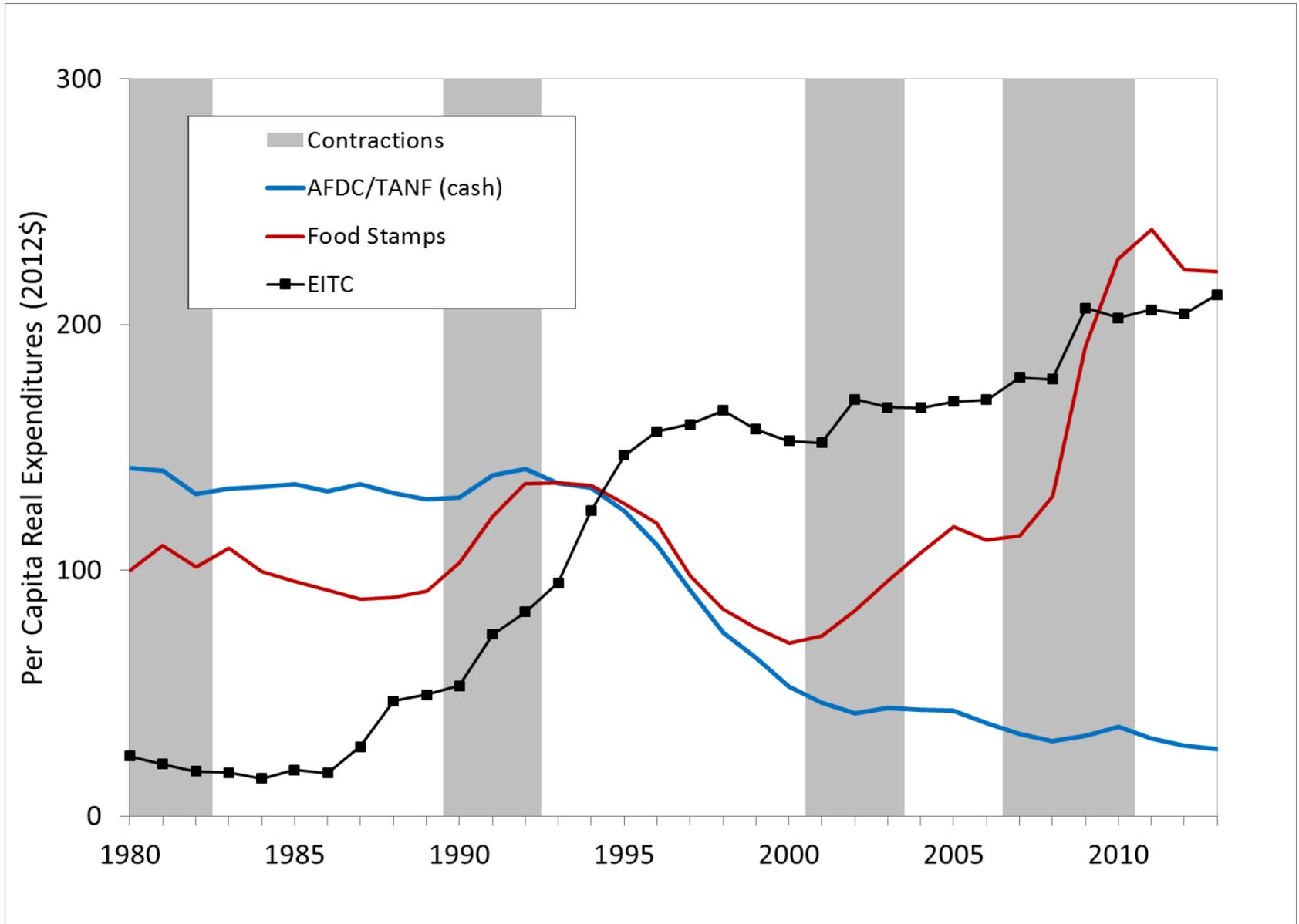
Note: The 2013 data reflect the implementation of the redesigned income questions. See Appendix D for more information. The data points are placed at the midpoints of the respective years. For information on recessions, see Appendix A. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <http://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar15.pdf>.

Source: U.S. Census Bureau, Current Population Survey, 1960 to 2015 Annual Social and Economic Supplements.

Concerns about official poverty measure

- Income measure is pre-tax family income; includes only cash income
 - Does not include Food Stamps (SNAP) or Earned Income Tax Credit (the most important government benefits for low income families!)
- Threshold concept has not changed yet spending needs have – modal family has working adult, costs of child care, work expenses; health care costs have soared
- Food budgets are now about 1/8 of spending rather than 1/3 in 1955.
- Not adjusted for regional variation in costs of living (e.g., housing)
- Arbitrary line – poverty gap as an alternative?
- Family concept should incorporate cohabitation

Per capita real expenditures (2012 \$)



Source: Bitler and Hoynes, BPEA, 2010 (updated)

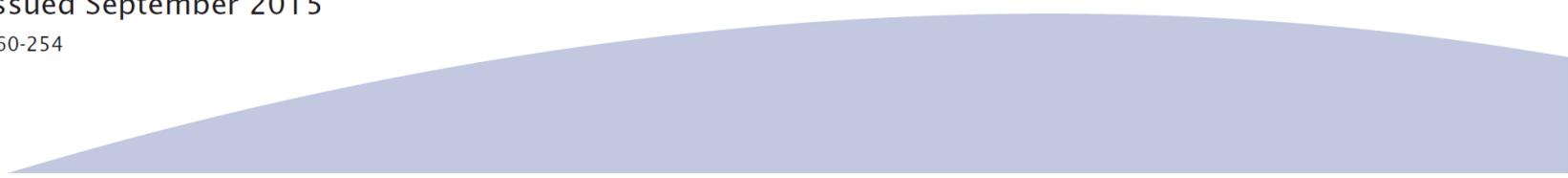
Supplemental Poverty Measure

The Supplemental Poverty Measure: 2014

Current Population Reports

By Kathleen Short
Issued September 2015

P60-254



Supplemental Poverty Measure

- In November 2011, the U.S. Census released an alternative measure.
- Based on National Academy of Sciences report in 1995 “Measuring Poverty: A New Approach”
- Uses post-tax family income including in-kind government benefits
- Thresholds accounting for spending on food, clothing, shelter and utilities
- Iceland calls it a “quasi relative” measure since these measures are taken at 30-36% of the median of those expenditure groups (challenging measurement problem)
- Other changes include geographic variation in poverty thresholds, expanding definition of family unit (cohabitators), and accounting for out of pocket medical expenses.

Poverty Measure Concepts: Official and Supplemental

	Official Poverty Measure	Supplemental Poverty Measure
Measurement Units	Families and unrelated individuals	All related individuals who live at the same address, and any coresident unrelated children who are cared for by the family (such as foster children) and any cohabiters and their relatives
Poverty Threshold	Three times the cost of a minimum food diet in 1963	The mean of the 30th to 36th percentile of expenditures on food, clothing, shelter, and utilities (FCSU) of consumer units with exactly two children multiplied by 1.2
Threshold Adjustments	Vary by family size, composition, and age of householder	Geographic adjustments for differences in housing costs by tenure and a three-parameter equivalence scale for family size and composition
Updating Thresholds	Consumer Price Index: all items	Five-year moving average of expenditures on FCSU
Resource Measure	Gross before-tax cash income	Sum of cash income, plus noncash benefits that families can use to meet their FCSU needs, minus taxes (or plus tax credits), minus work expenses, minus out-of-pocket medical expenses and child support paid to another household

Resource Estimates
SPM Resources = Money Income From All Sources

Plus:

Supplemental Nutritional Assistance (SNAP)
National School Lunch Program
Supplementary Nutrition Program for Women Infants and Children (WIC)
Housing subsidies
Low-Income Home Energy Assistance (LIHEAP)

Minus:

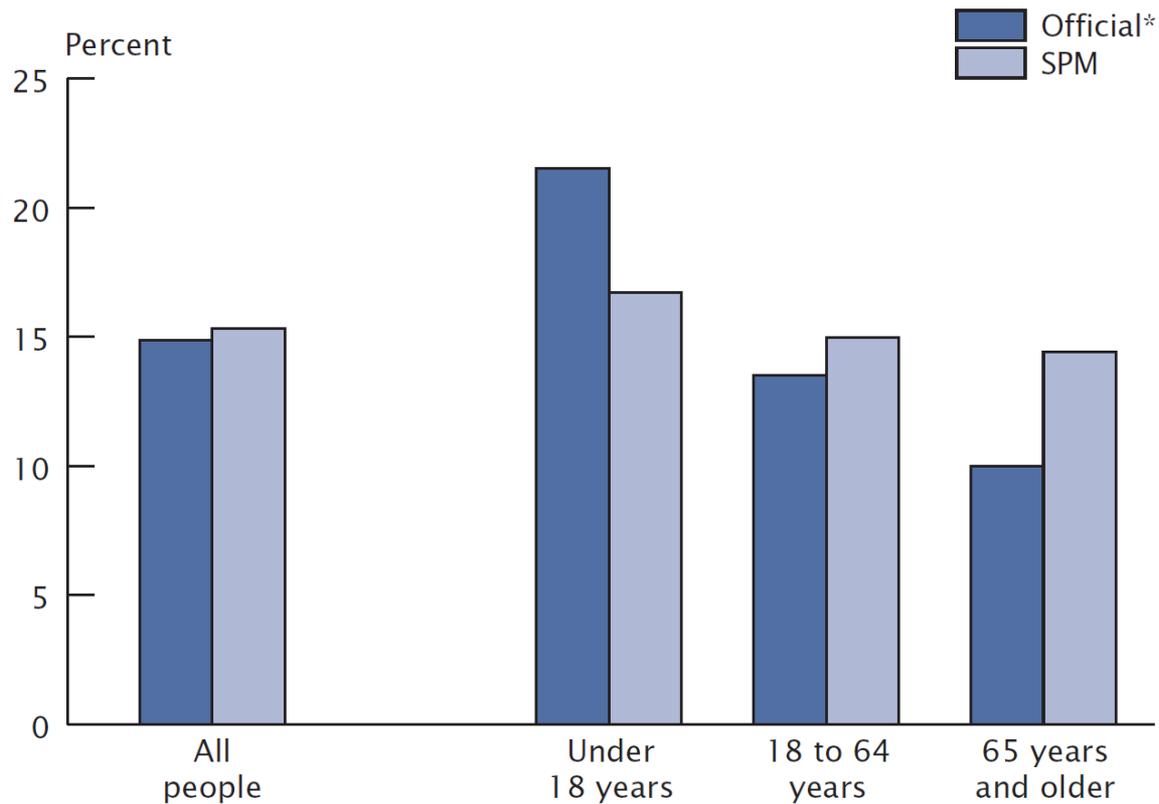
Taxes (plus credits such as the Earned Income Tax Credit [EITC])
Expenses Related to Work
Child Care Expenses
Medical Out-of-Pocket Expenses (MOOP)
Child Support Paid

Equivalence scale in SPM thresholds

Family Type	Equivalence Scale
One and two adults	$(\text{adults})^{0.5}$
Single parents	$(\text{adults} + 0.8 * \text{first child} + 0.5 * \text{other children})^{0.7}$
Other families	$(\text{adults} + 0.5 * \text{children})^{0.7}$

Defined to account for economies of scale in resource sharing (particularly housing, utilities)

Figure 1.
Poverty Rates Using Two Measures for Total Population and by Age Group: 2014



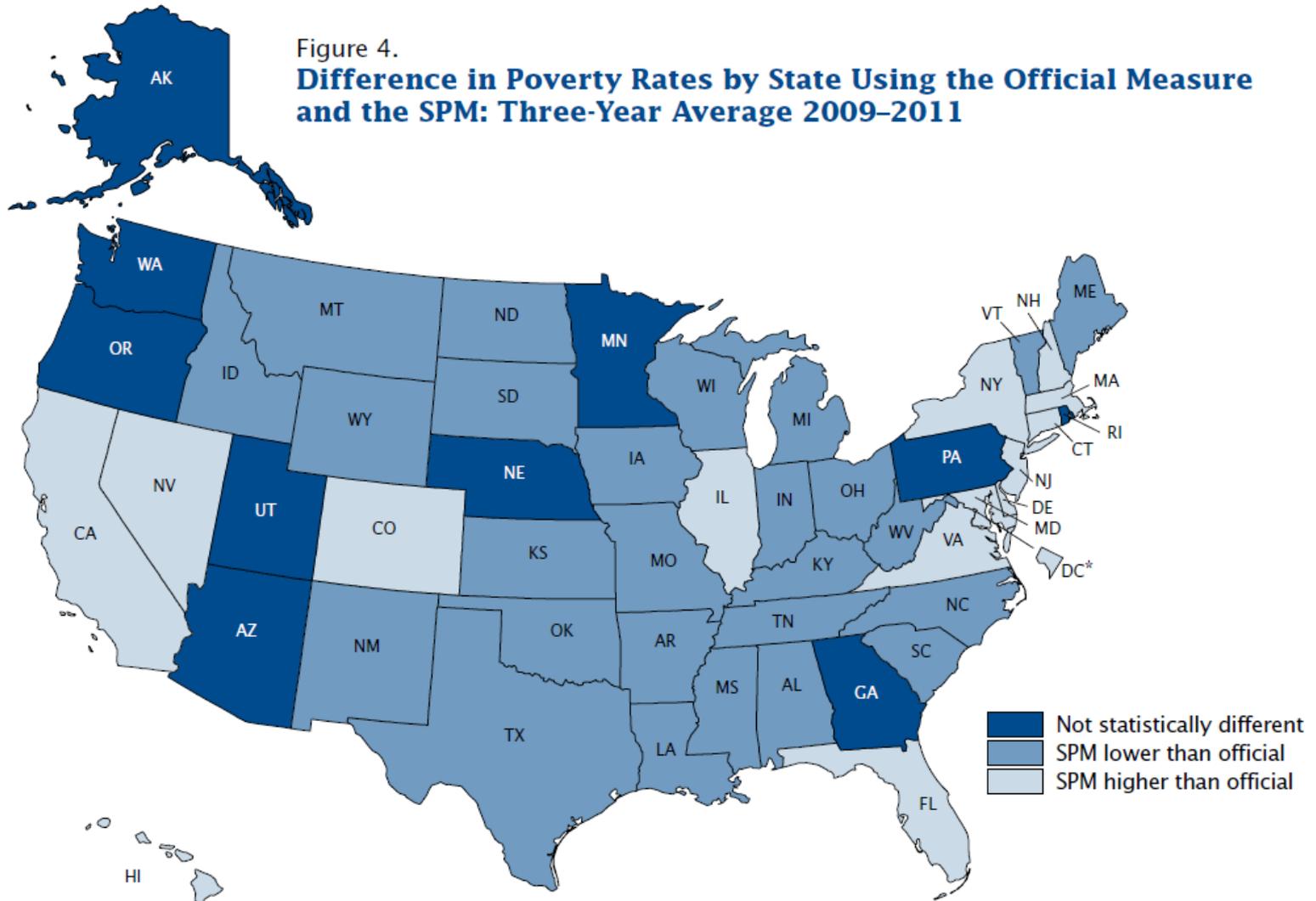
* Includes unrelated individuals under the age of 15.

Source: U.S. Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplement.

Why differential changes across age groups?

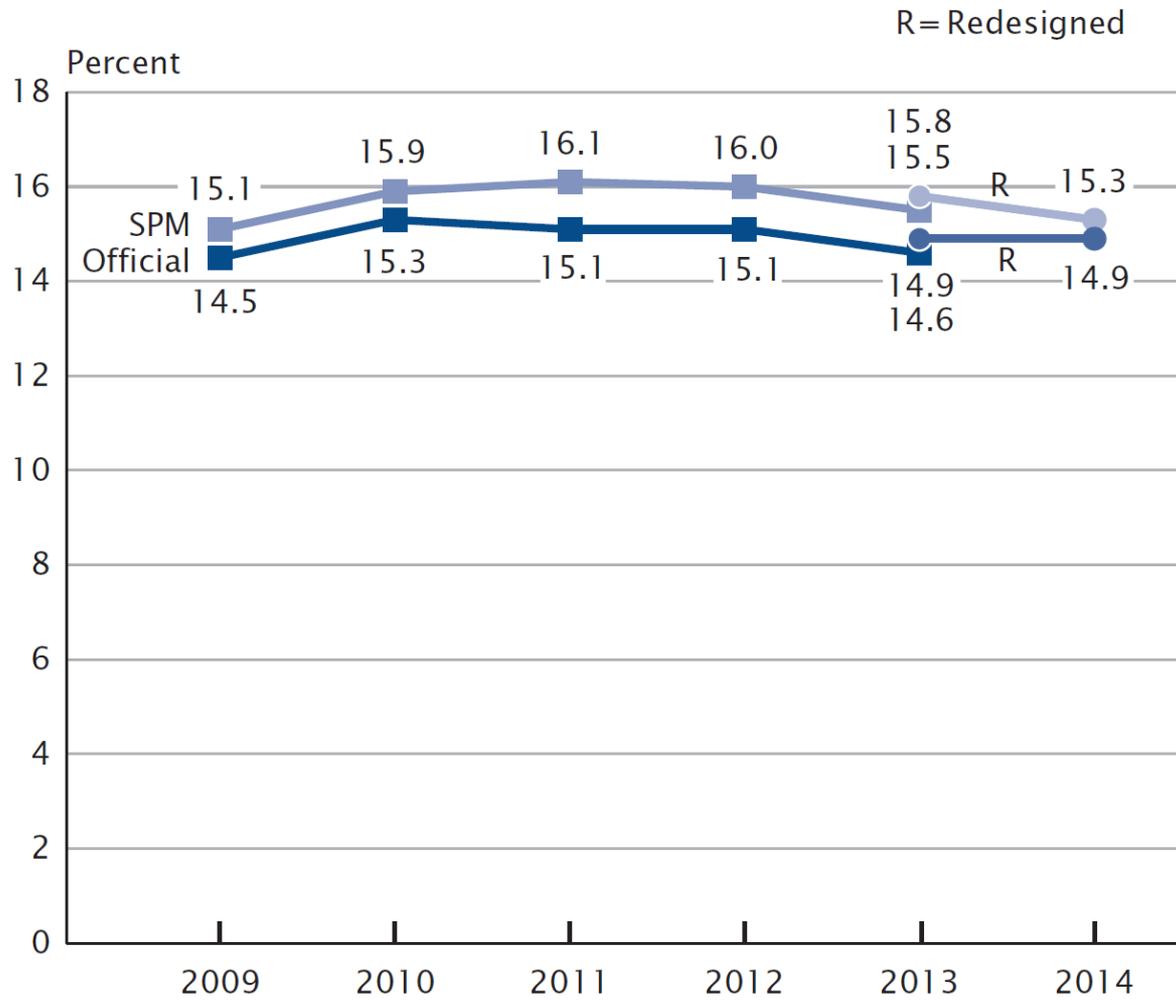
SPM causes geographic shift in poverty

Figure 4.
Difference in Poverty Rates by State Using the Official Measure and the SPM: Three-Year Average 2009–2011



Source: U.S. Census Bureau, Current Population Survey, 2010–2012 Annual Social and Economic Supplements.

Figure 4.
**Poverty Rates Using the Official Measure and
 the SPM: 2009 to 2014**



Source: U.S. Census Bureau, Current Population Survey, 2010–2015 Annual Social and Economic Supplements.

Concentrated poverty

- <http://www.brookings.edu/research/interactives/2014/concentrated-poverty#/M10420>

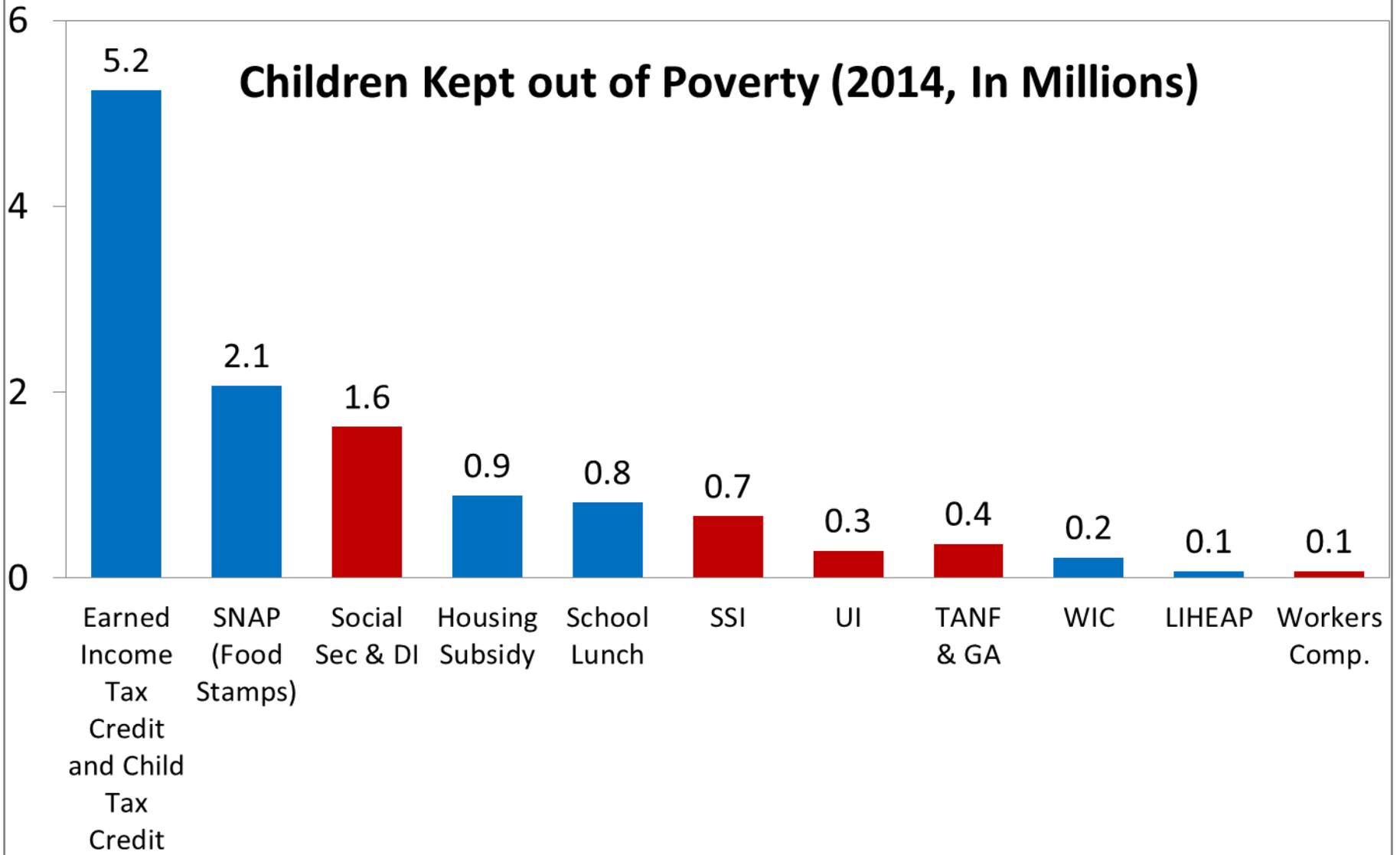
Why is SPM important?

1. Improved measure to capture what we seek in the measure
2. Can be used to show the antipoverty effects of broad set of government programs. Big value in having ONE MEASURE that everyone can point to

Antipoverty Effects of Govt Programs

- Using the SPM we can calculate by how much poverty would increase if a given program was eliminated
- Source: Short SPM 2015

Children Kept out of Poverty (2014, In Millions)



Persons Kept Above Poverty (2014, In Millions)

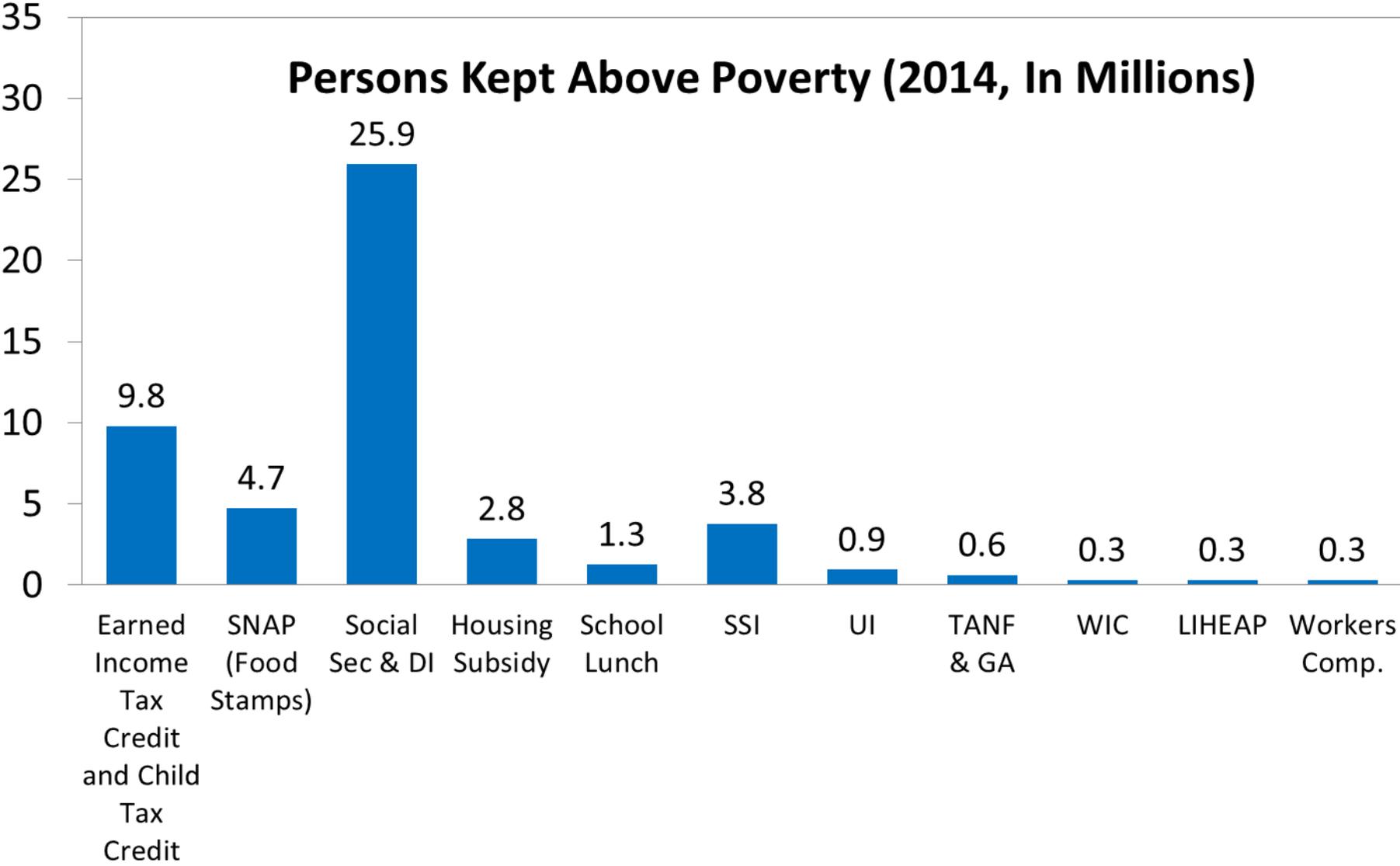
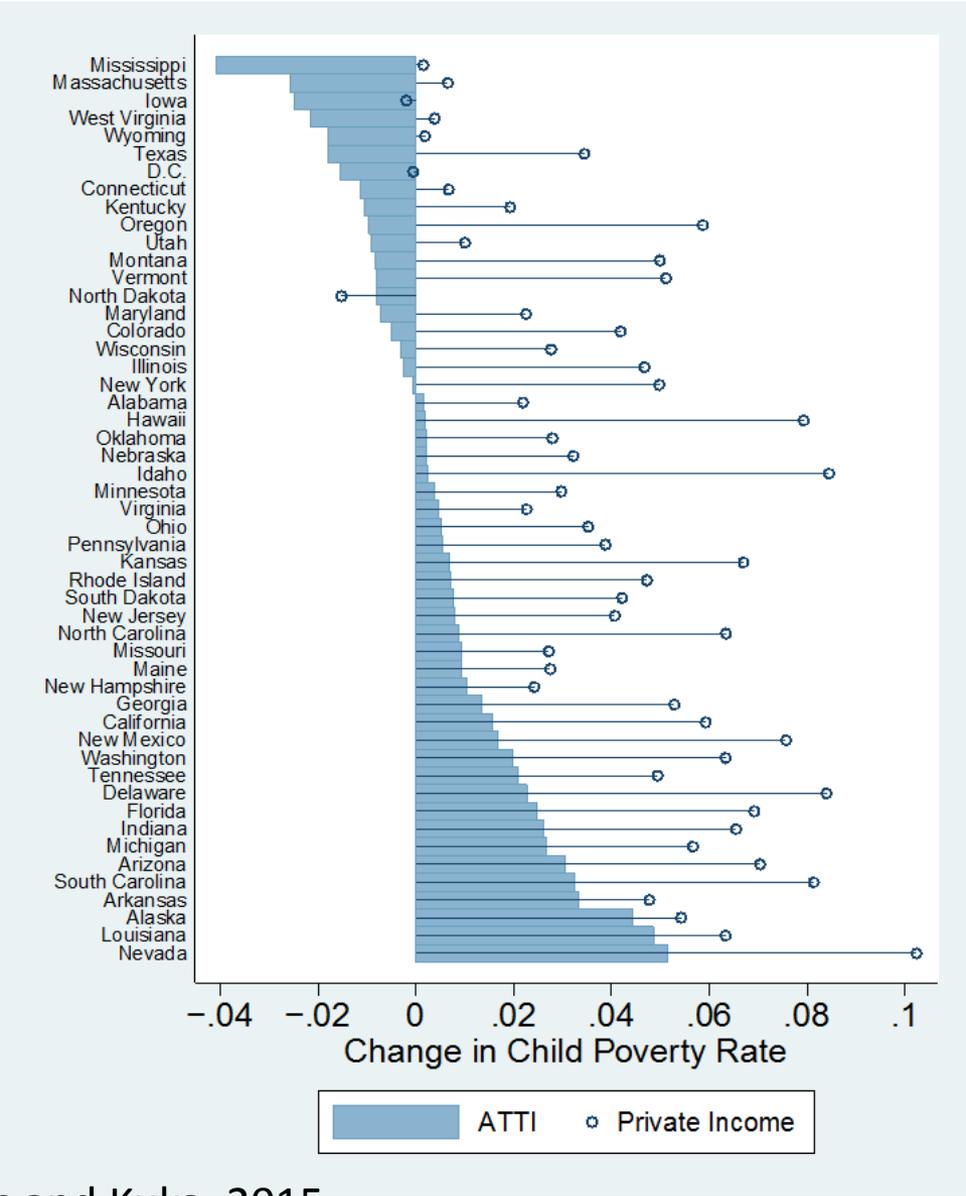


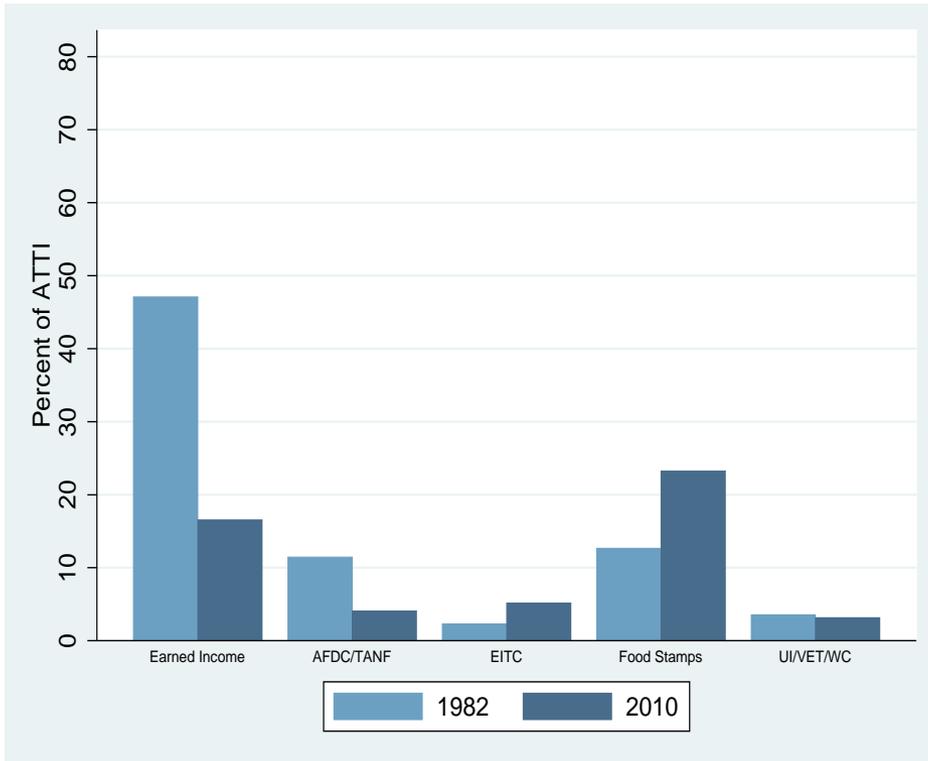
Figure 4: Change in Private Income Child Poverty Measure and After-Tax and Transfer Income Child Poverty Measure during the Great Recession



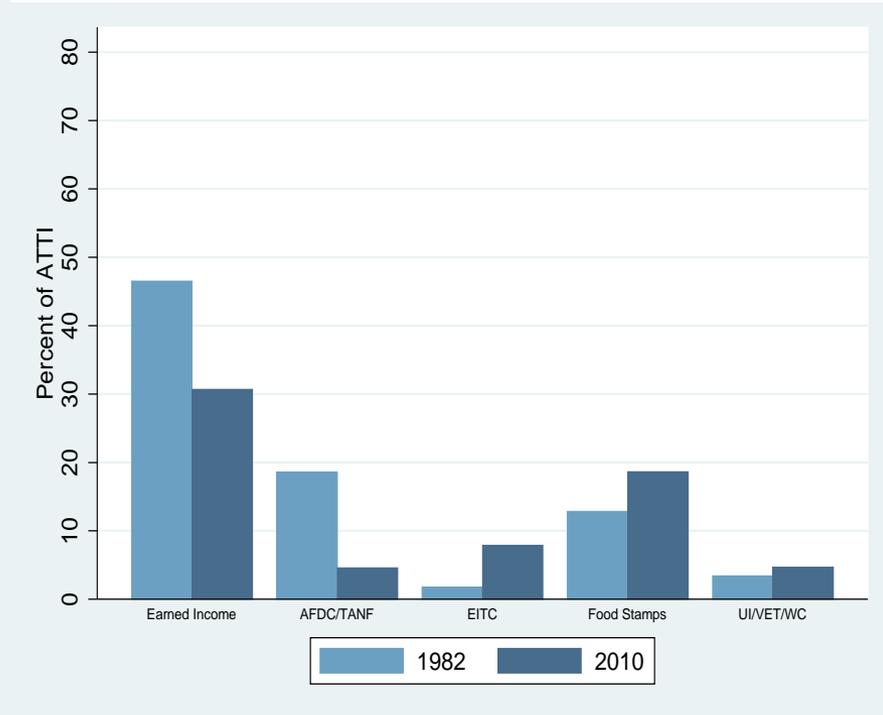
Source: Bitler, Hoynes and Kuka, 2015

Figure 7: Composition of After-Tax and Transfer Income by Source for Children

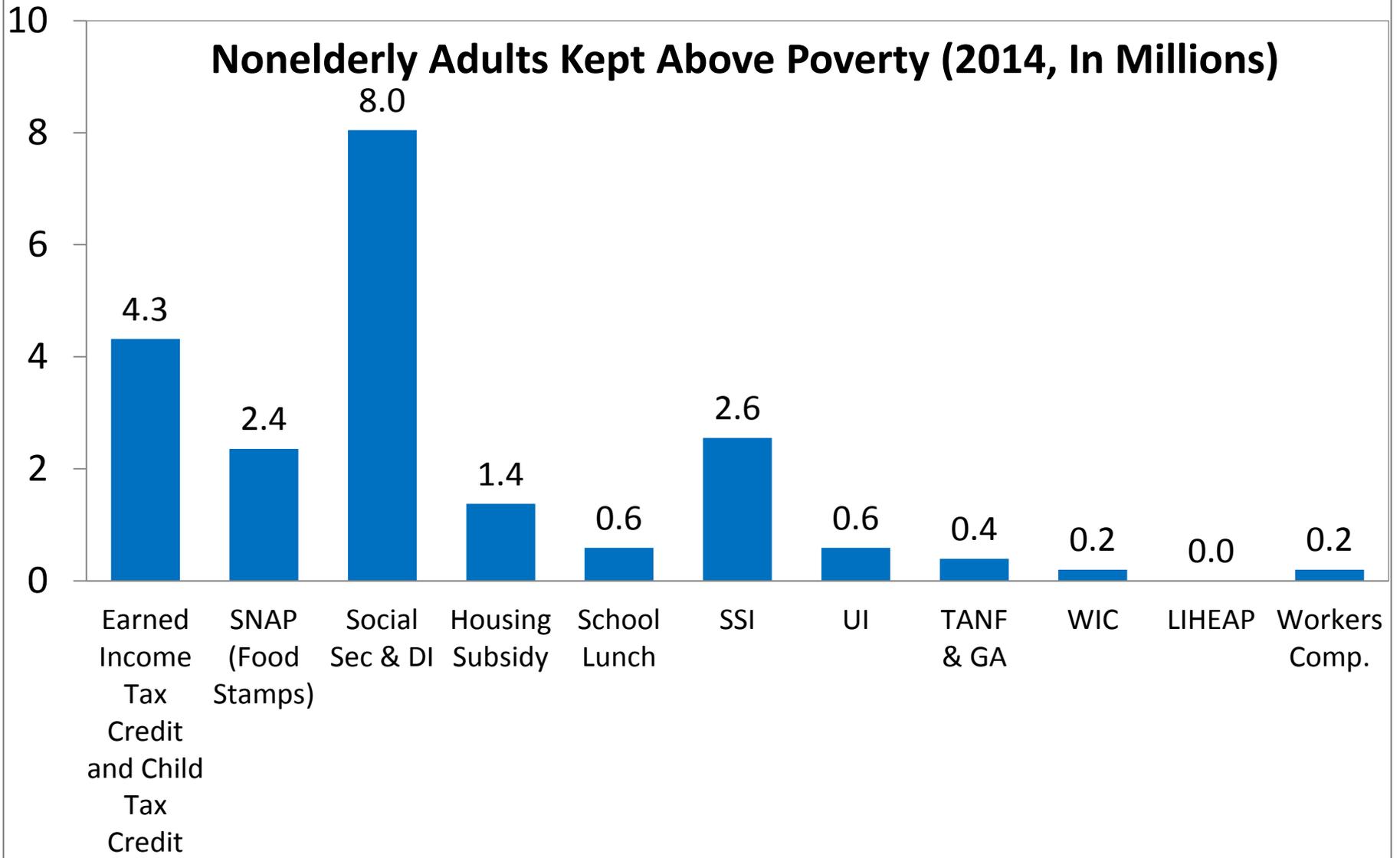
(a) Below 50% Poverty



(b) Below 100% Poverty



Nonelderly Adults Kept Above Poverty (2014, In Millions)



Elderly Kept Above Poverty (2014, In Millions)

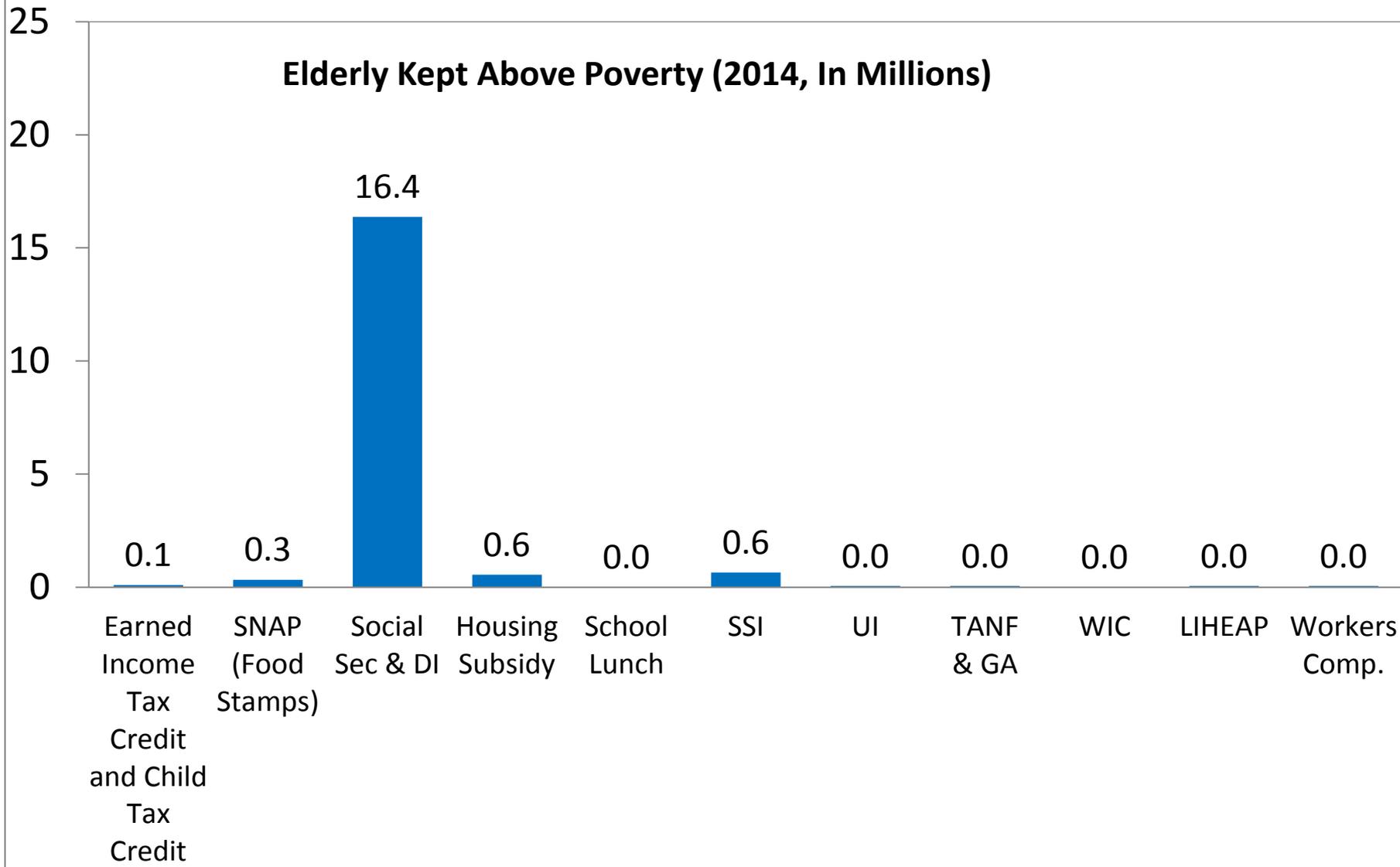


Table 2

**Mean Characteristics of the Official and Supplemental Poverty Measure (SPM)
Poor by Poverty Status, Consumer Expenditure Survey, 2010**

	<i>Both SPM poor and official poor</i> (1)	<i>SPM poor only</i> (2)	<i>Official poor only</i> (3)	<i>Neither SPM nor official poor</i> (4)	<i>+ favors SPM</i>
Consumption	\$27,159	\$37,030	\$25,799	\$51,699	–
Any health insurance	61%	68%	65%	78%	–
Private health insurance	28%	55%	20%	70%	–
Homeowner	37%	55%	36%	76%	–
Single family home	28%	46%	24%	66%	–
Own a car	71%	89%	78%	94%	–
Service flows from vehicles	\$415	\$849	\$330	\$1,363	–
Service flows from owned homes	\$2,099	\$3,809	\$1,594	\$6,380	–
Total service flows	\$2,514	\$4,658	\$1,924	\$7,743	–
Family size	3.582	3.205	4.268	3.387	–
# of rooms	6.19	6.92	5.57	7.58	–
# of bedrooms	3.08	3.31	2.76	3.59	–
# of bathrooms	1.68	1.94	1.48	2.15	–
Appliances and amenities					
Microwave	92%	95%	93%	97%	–
Disposal	33%	44%	33%	57%	–
Dishwasher	40%	57%	42%	75%	–
Any air conditioning	73%	82%	77%	83%	–
Central air conditioning	47%	58%	51%	67%	–
Washer	70%	82%	70%	90%	–
Dryer	63%	79%	62%	88%	–
Television	96%	97%	95%	98%	–
Computer	63%	69%	63%	88%	–
Head is a college graduate	9%	14%	7%	34%	–
Total financial assets					
75th percentile	\$300	\$3,000	\$200	\$14,000	–
90th percentile	\$2,502	\$20,000	\$1,400	\$97,000	–
Share of people	13%	3%	3%	80%	–
Unweighted number of families	4,085	1,000	808	22,322	–

Not everyone
thinks SPM is
better.

Source:
Meyer &
Sullivan JEP
2012.

Broader critiques of official poverty

Material hardship measures (from Iceland)

TABLE 2 PERCENTAGE OF PEOPLE REPORTING VARIOUS HARDSHIPS

	Percent
Food security^a (2010)	
Food insecurity	14.5
Very low food security	5.4
Health care	
Did not have health insurance (2011)	15.7
Did not see a doctor when needed to (2005)	6.8
Housing and neighborhood conditions (2005)	
Leaking roof	4.9
Problem with pests in house	9.8
Trash or litter on streets	7.3
Meeting basic needs	
Unpaid rent or mortgage (2005)	6.1
Unpaid utility (2005)	9.8
Telephone disconnected (2005)	4.2
Reported not meeting essential expenses at one point during year (2005)	14.4
Children in families affected by a foreclosure (2007–9, annual average)	4.3
People using an emergency shelter during the year (2009)	0.5

^a Food insecure households had difficulty at some time during the year providing enough food for all

Consumer goods (from Iceland)

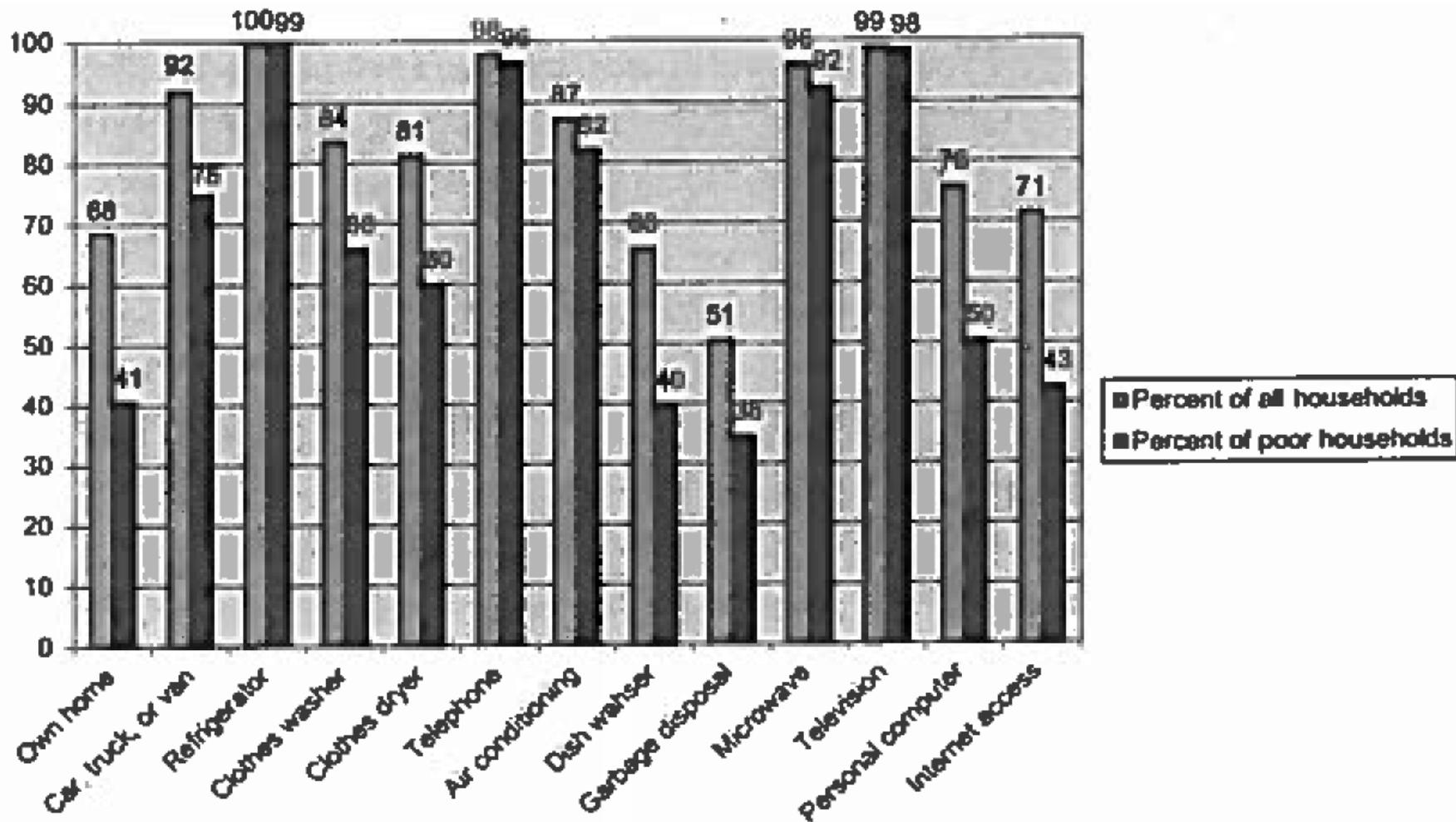


FIGURE 5. Percentage of Households with Various Consumer Goods, 2009. SOURCES:

An alternative view (Rector reading)

- “In fact, numerous government reports indicate that most "poor" Americans today are better housed, better fed, and own more personal property than average Americans throughout most of this century.”
- “...the initial income thresholds were set artificially high in order to enlarge the apparent numbers of the poor and build public support for Johnson's Welfare policies. “
- Undercounting of income

Undercounting in Surveys (Meyer)

- Measuring poverty requires large sample with complete capture of income sources
- Turns out that our surveys are getting worse over time in capturing earnings and government transfers
- Unit nonresponse – people don't respond to surveys
- Item nonresponse – don't answer certain questions (don't know or refuse); highest rate for labor and nonlabor income
- Extent of bias depends on WHO is not responding

Undercounting in Surveys - IMPLICATIONS

- Underestimate of income at the bottom (overestimate of poverty rates)
- Underestimate of anti-poverty effects of government programs

Figure 1

Unit Nonresponse Rates of Major Household Surveys

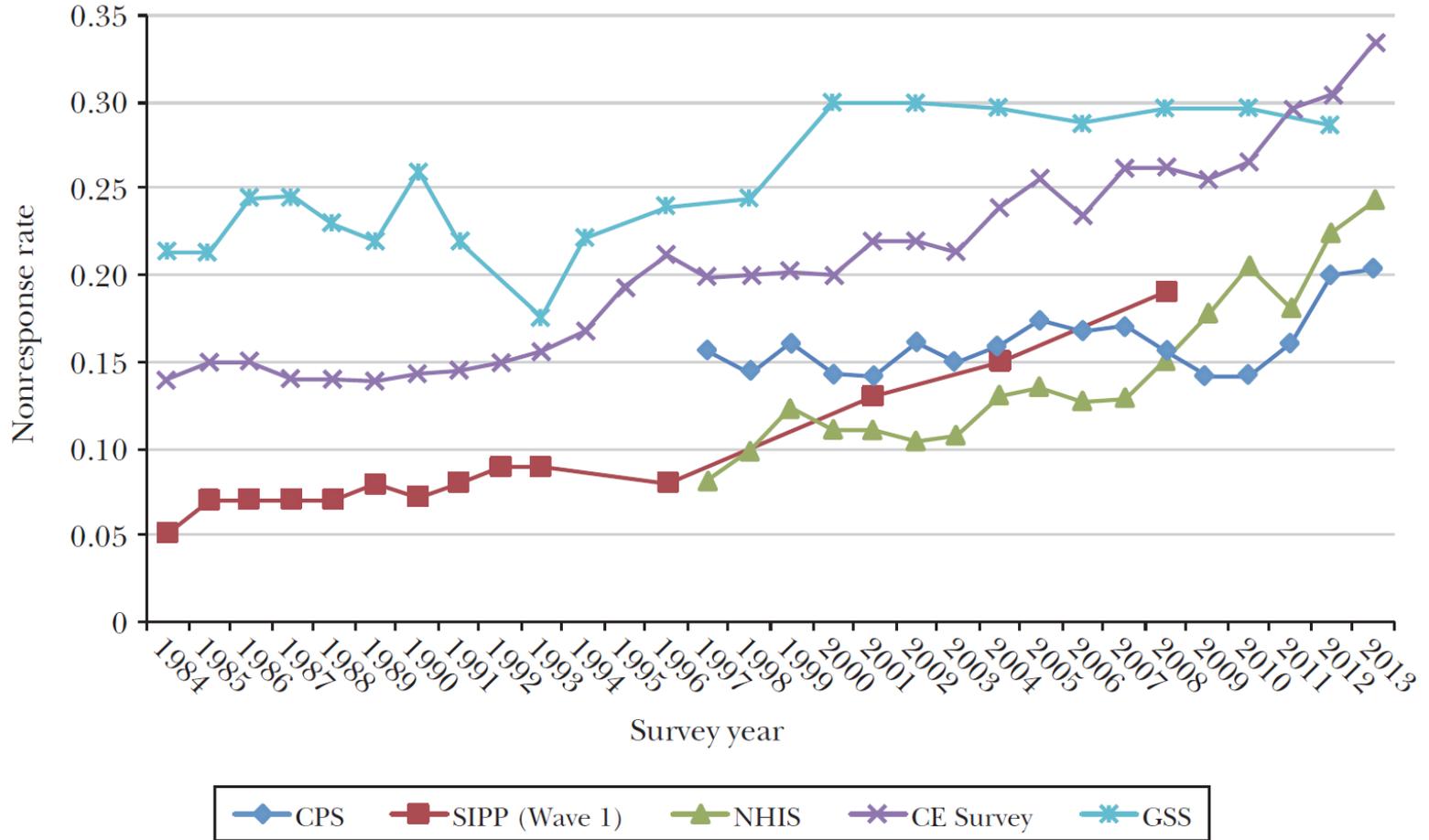


Figure 1

Unit Nonresponse Rates of Major Household Surveys

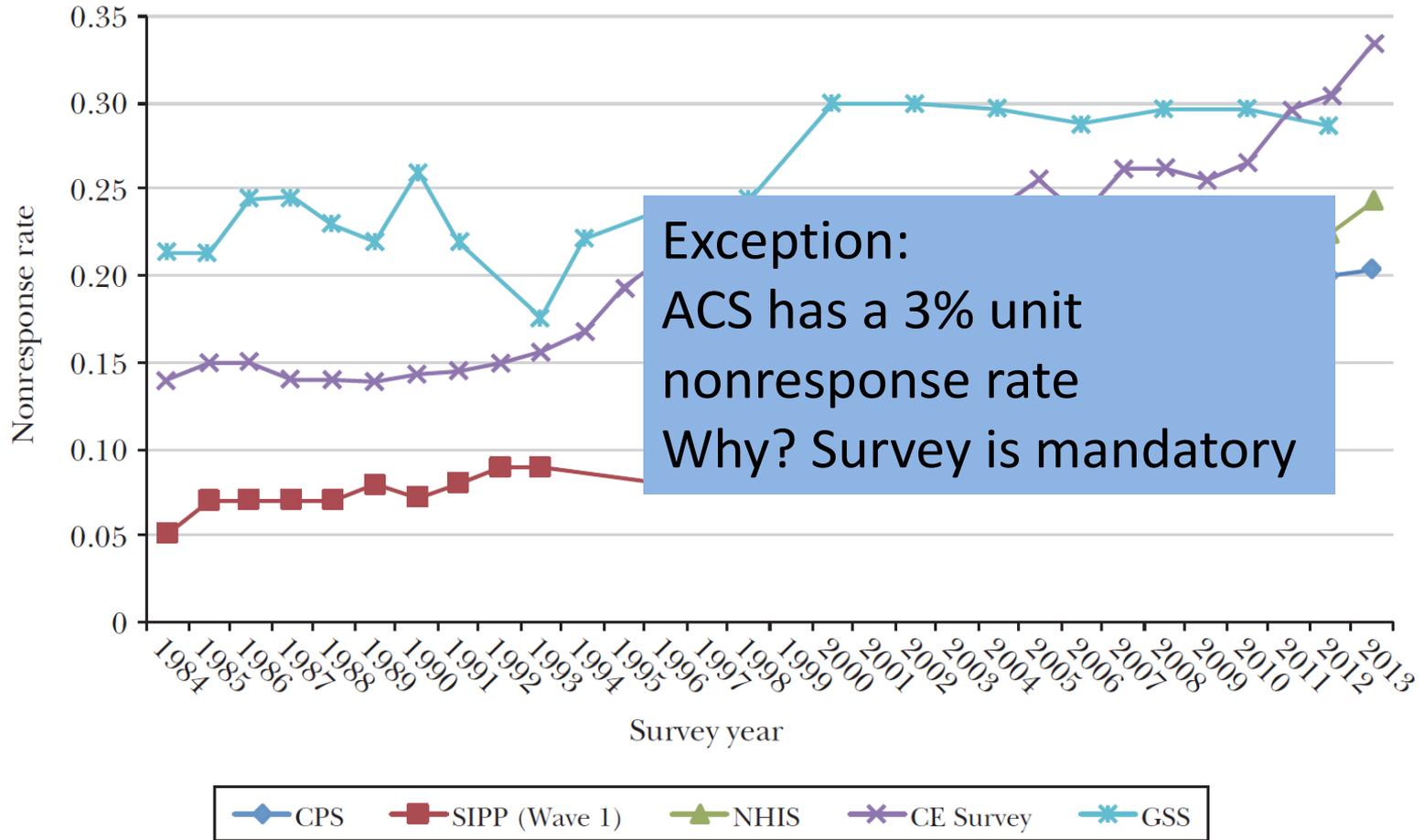


Figure 2

Item Nonresponse Rates in Two Surveys for Various Transfer Programs Calculated as Share of Dollars Reported in the Survey that Is Imputed

A: Current Population Survey (CPS)

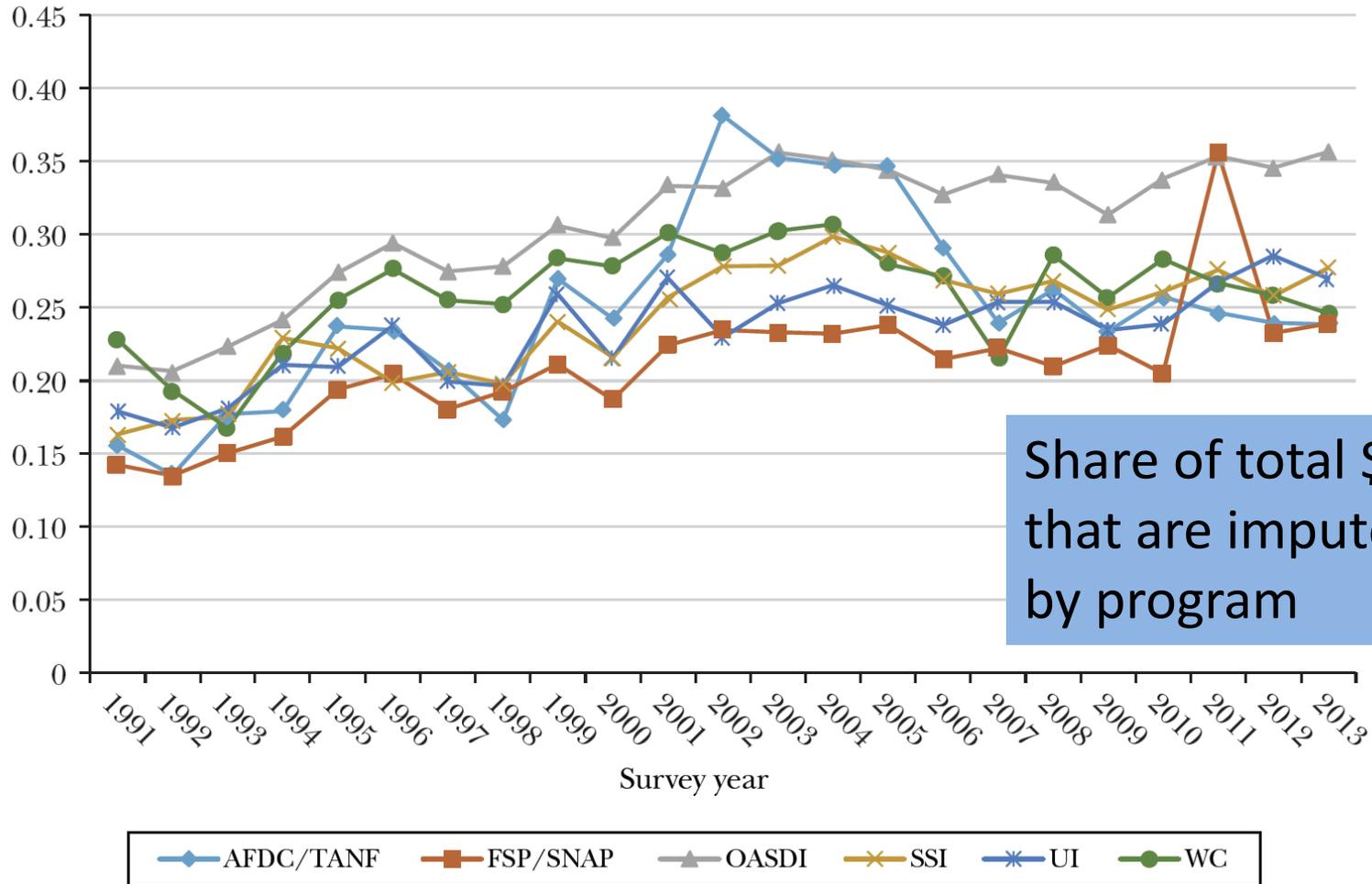
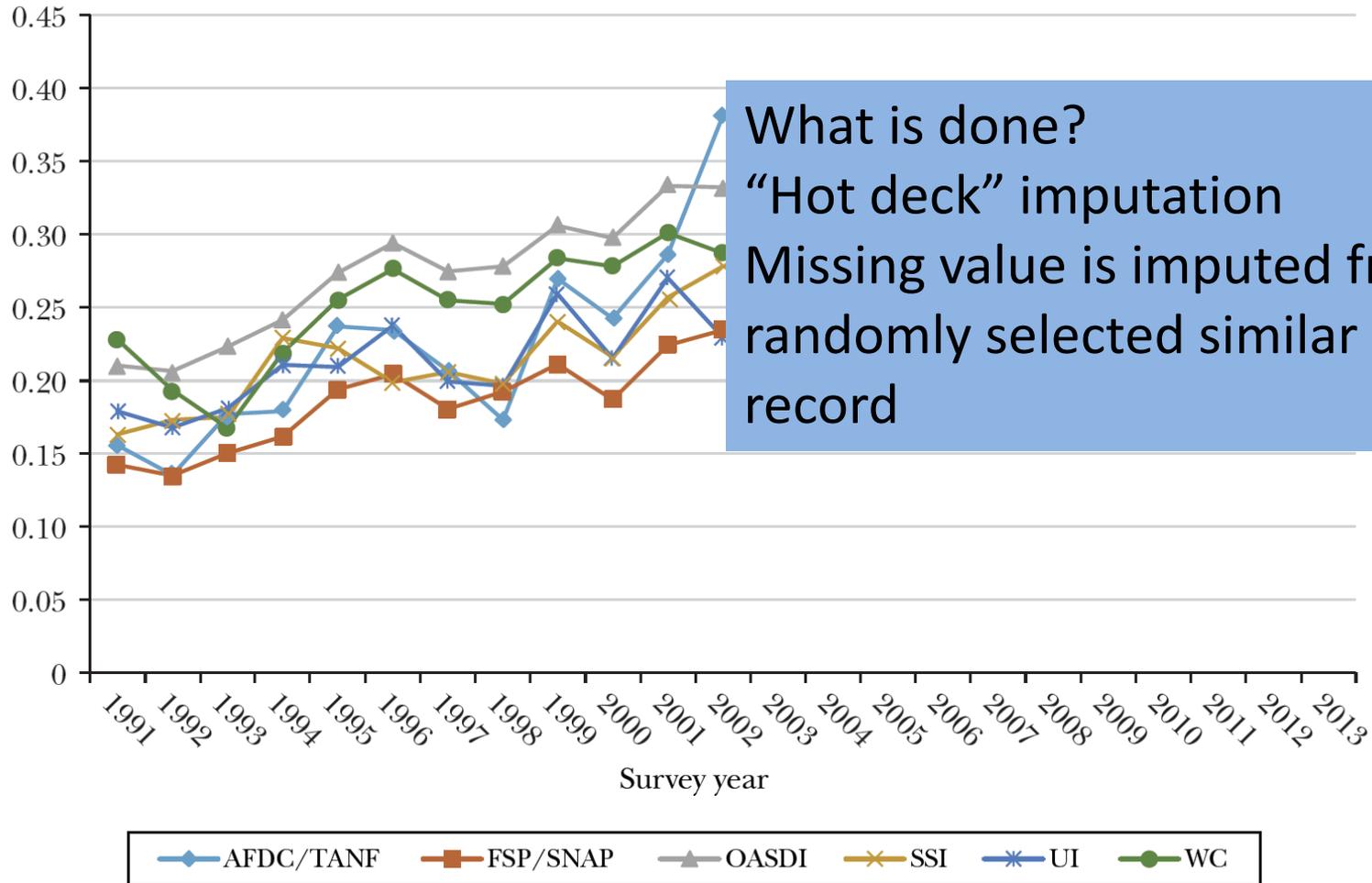


Figure 2

Item Nonresponse Rates in Two Surveys for Various Transfer Programs Calculated as Share of Dollars Reported in the Survey that Is Imputed

A: Current Population Survey (CPS)



Below we report estimates of the proportional bias in dollar reporting, which we call Dollar Bias, and in month reporting, which we call Month Bias. These biases can be defined as the net reporting rate minus 1, or more specifically,

$$\textit{Dollar Bias} = \frac{\text{dollars reported in survey, population weighted}}{\text{dollars reported in administrative data}} - 1$$

and

$$\textit{Month Bias} = \frac{\text{months reported in survey, population weighted}}{\text{months reported in administrative data}} - 1.$$

Range:

0: full capture of administrative measures

-1: captures nothing

Table 1

Proportional Bias in Survey Estimates of Mean Program Dollars and Months Received, by Program and Survey, 2000–2012

	<i>AFDC/ TANF</i>	<i>FSP/ SNAP</i>	<i>Social Security</i>		<i>SSI</i>	<i>UI</i>	<i>WC</i>	<i>NSLP</i>	<i>WIC</i>
			<i>OASI</i>	<i>SSDI</i>					
Dollars									
ACS	-0.519	-0.458	-0.165	-0.299	-0.046				
CE	-0.767	-0.587	-0.149	-0.214	-0.283	-0.583	-0.618		
CPS	-0.500	-0.417	-0.086	-0.187	-0.162	-0.325	-0.541		
PSID	-0.619	-0.308	-0.086	-0.176	-0.322	-0.360	-0.646		
SIPP	-0.357	-0.170	-0.070	-0.146	0.164	-0.388	-0.651		
Months									
ACS			-0.154	-0.261	-0.372				
CPS	-0.453	-0.422	-0.147	-0.154	-0.397			-0.503	-0.341
PSID	-0.574	-0.297	-0.114	-0.121	-0.502			-0.470	-0.180
SIPP	-0.232	-0.165	-0.008	0.041	0.023			0.141	-0.197

Notes: Each cell reports the average dollars/months proportional bias for the specified program and survey in the 2000–2012 period. The transfer programs are: Aid to Families with Dependent Children/Temporary

Solutions?

- Methods to get people to respond ...
- Linking to administrative data so that people do not have to respond to income questions
- New paper by Meyer and Mittag does this for NY state. Takes CPS and matches to administrative data for: SNAP, TANF, GA, Housing
- Administrative data is not enough, since need to combine earned and unearned income across all family members. Difficult to do with administrative data alone.

Table 1
Survey Errors in Transfer Receipt Reporting, CPS New York , 2008-2011

Error Type	Sample	Full Sample			Income < 2X Poverty Line		
		SNAP	Public Assistance	Housing Assistance	SNAP	Public Assistance	Housing Assistance
False negatives	True recipients	42.8%	63.3%	35.6%	33.0%	56.8%	29.6%
False positives	True non-recipients	1.9%	0.7%	2.8%	7.6%	2.0%	8.0%
Absolute error in amount >\$500	Recipients who report	53.22%	87.89%	97.50%	52.66%	88.27%	97.57%
Mean of true amount (annual)	Recipients who report	\$3,389	\$5,213	\$12,000	\$3,499	\$5,317	\$12,014
Mean of reported amount (annual)	Recipients who report	\$3,170	\$3,152	\$3,081	\$3,262	\$3,004	\$3,230
SD of error in amount	Recipients who report	\$2,392	\$4,619	\$8,776	\$2,341	\$4,384	\$8,657
Correlation true and reported amount	Recipients who report	0.55	0.22	0.07	0.57	0.26	0.08

Note: Estimation uses households with at least one PIKed member only, weights are adjusted for PIK rates. SNAP and public assistance amounts are average annual receipt per household, housing assistance amounts are annualized from monthly amounts per household. False positives for housing assistance may be recipients of non-HUD housing programs and therefore should not necessarily be interpreted as survey errors.

Table 3
Reduction in Poverty, Deep Poverty and Near Poverty due to Transfer Programs According to Survey
CPS NY Sample, 2008-2011

	Entire Population							
	Deep Poverty (baseline: 6.0%)				Poverty (baseline: 13.65%)			
	Survey	Admin	Difference	% of Survey	Survey	Admin	Difference	% of Survey
All Programs Combined	2.48%	3.33%	0.85%	34.28%	2.79%	5.29%	2.50%	89.7%
SNAP	1.38%	1.57%	0.19%	13.68%	1.59%	2.09%	0.50%	31.2%
Public Assistance	0.42%	0.89%	0.47%	112.75%	0.19%	0.47%	0.28%	149.7%
Housing Assistance	0.76%	1.84%	1.08%	142.23%	0.86%	2.56%	1.71%	199.1%
Public Assistance and SNAP	1.85%	2.39%	0.54%	29.35%	1.89%	2.75%	0.86%	45.2%

	Single Mother Headed Households							
	Deep Poverty (baseline: 21.4%)				Poverty (baseline: 37.5%)			
	Survey	Admin	Difference	% of Survey	Survey	Admin	Difference	% of Survey
All Programs Combined	11.52%	15.93%	4.40%	38.23%	7.30%	18.34%	11.04%	151.20%
SNAP	6.59%	6.77%	0.17%	2.65%	3.47%	5.00%	1.52%	43.85%
Public Assistance	2.25%	4.71%	2.46%	109.46%	0.28%	1.81%	1.53%	548.28%
Housing Assistance	3.53%	9.72%	6.19%	175.09%	0.71%	7.68%	6.98%	986.70%
Public Assistance and SNAP	8.79%	10.98%	2.19%	24.92%	4.90%	8.32%	3.41%	69.62%

Note: N=12,146 households for the entire population, 1072 for single mothers. Poverty rate is share of individuals in households with income below the poverty threshold. Deep poverty is defined as cash income excluding public assistance as the income definition. Poverty thresholds are the official poverty thresholds, individuals in households with income below 150% in near poverty.

- <http://thecolbertreport.cc.com/videos/zq2rpw/-poor--in-america>

Trends in Poverty and Inequality

Hilary Hoynes

PP290

Outline

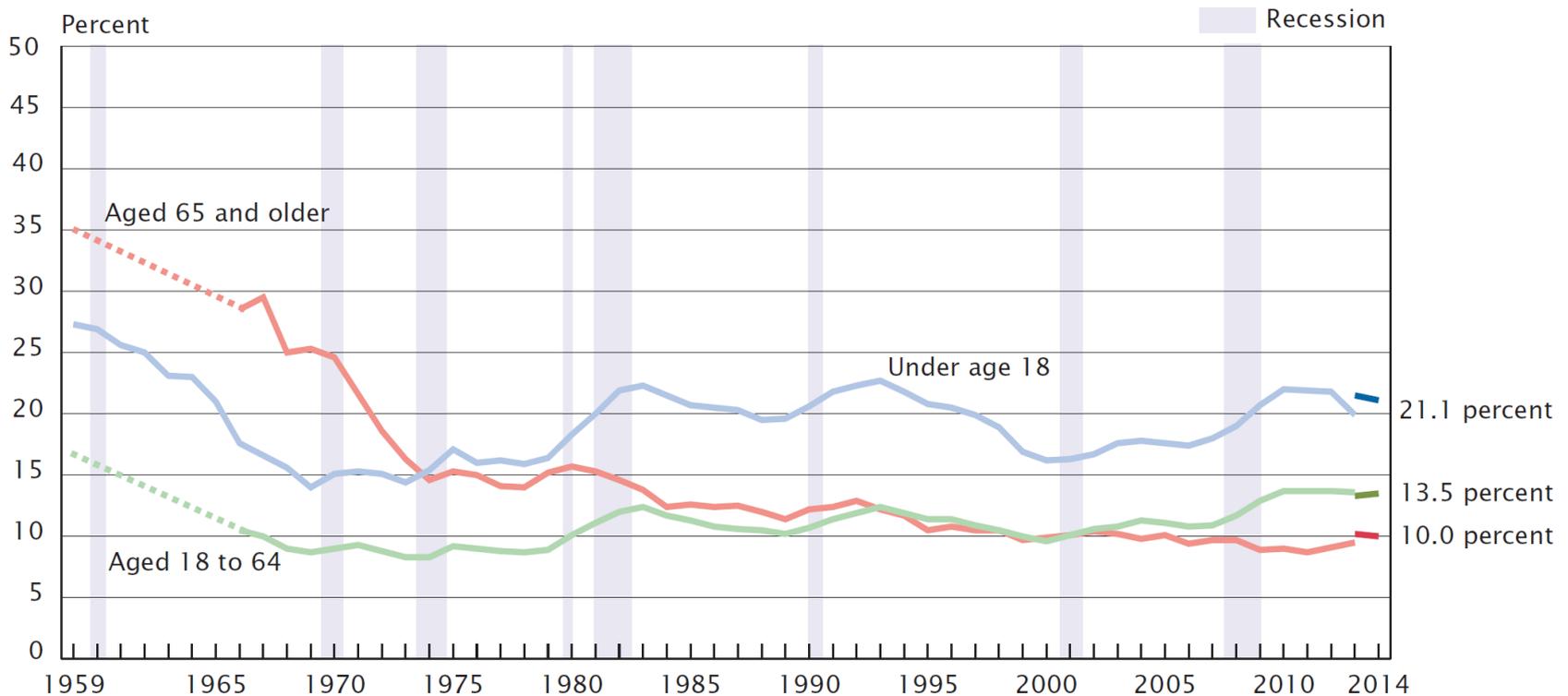
1. Trends in poverty
2. Measuring inequality (Gini, Top shares)
3. Trends in inequality (upper tail)
4. Trends in mobility

Trends in Poverty

- Measuring trends in poverty is important. Captures significant attention not only the level but how is it changing.
- There is significant interest additionally in understanding how policies, the labor market, demographics, and so on have affected these trends.
- So for all of this we need measurement over time.

Official Poverty – the starting point

Figure 5.
Poverty Rates by Age: 1959 to 2014



Note: The 2013 data reflect the implementation of the redesigned income questions. See Appendix D for more information. The data points are placed at the midpoints of the respective years. Data for people aged 18 to 64 and 65 and older are not available from 1960 to 1965. For information on recessions, see Appendix A. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see <ftp://ftp2.census.gov/programs-surveys/cps/techdocs/cpsmar15.pdf>.

Source: Census, Income and Poverty in the U.S. P60-252.

- But for all the reasons we already talked about, this is not an appropriate measure for examining trends in poverty.
- Threshold is out of date; resource measure is incomplete.
- → SPM. Practically speaking, it is difficult to take the SPM definition and apply it to prior decades. Why?

Why can't we just measure the SPM back in time?

- SPM available for 2009 – present
- Data issues
 - Calculating thresholds requires consumption data (CEX) and the data is spotty prior to 1980.
 - The resource measure includes in-kind benefits that are not measured for all years (mostly available post-1980) and includes items that are not available until 2010 (MOOP, child care expenses)
- Conceptually – because the thresholds are relative, we could get changes over time in the SPM because the thresholds change but resources stay the same. That might not be desirable.

Two approaches to “backcasting” SPM

- Historical SPM:
 - Use available data to best measure resources and threshold over time. Impute between years as needed
 - Fox et al JPAM 2015 “Waging War on Poverty: Poverty Trends Using a Historical SPM”
- Anchored SPM
 - Assigned reading
 - Wimer et al “Trends In Poverty with an Anchored SPM”

Historical SPM Approach

- Threshold: Use SPM definition; 5 year rolling average of the CEX data where available
 - 1960/61, 1972/73, 1980-present
- Resource measure: Use CPS posttax income plus nearcash transfers (SNAP, WIC, NSLP) minus work, child care, and MOOP expenditures.
 - Lots of imputations given data limitations; e.g. SNAP not in survey until 1980, MOOP not available until 2010

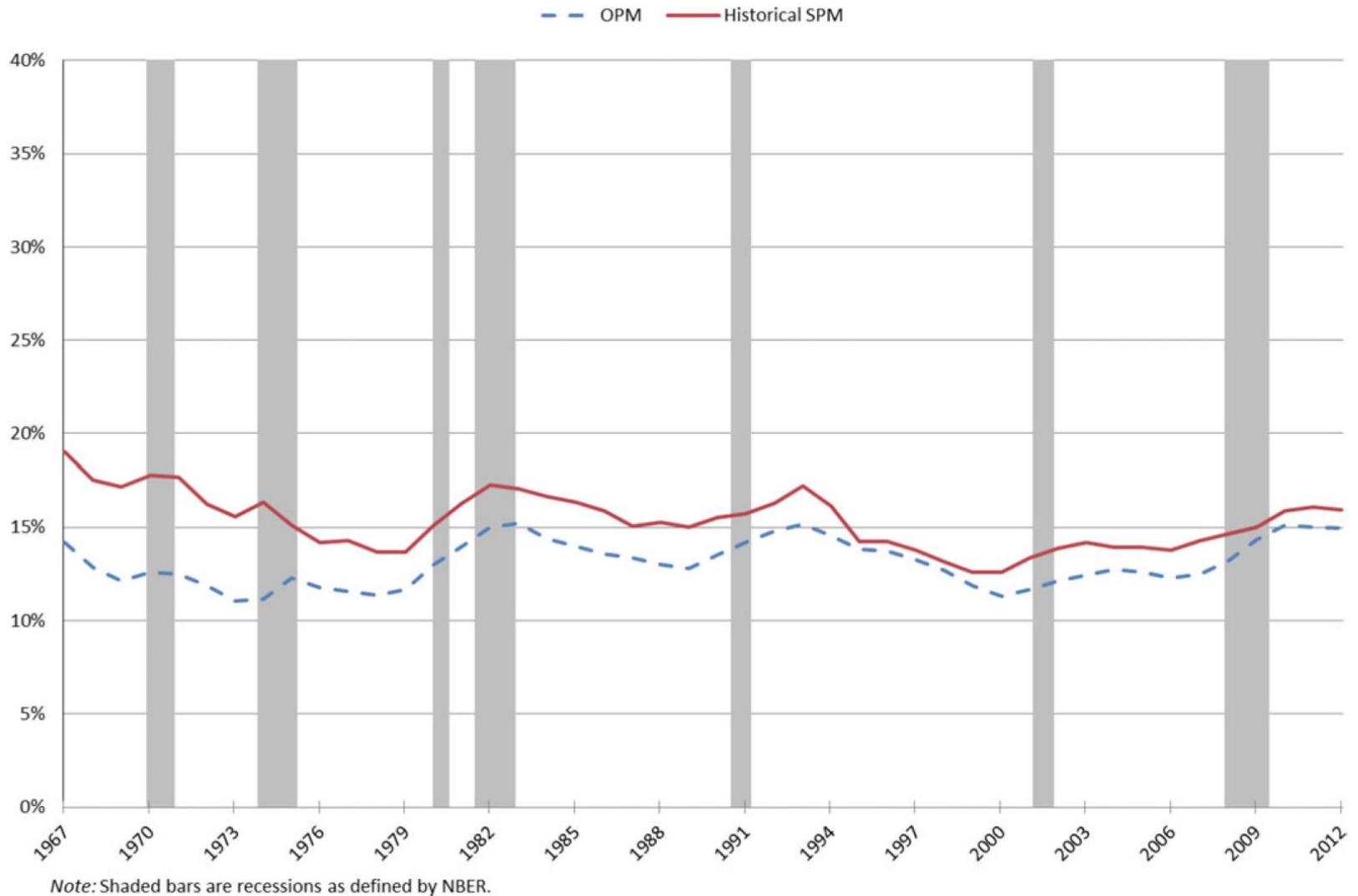
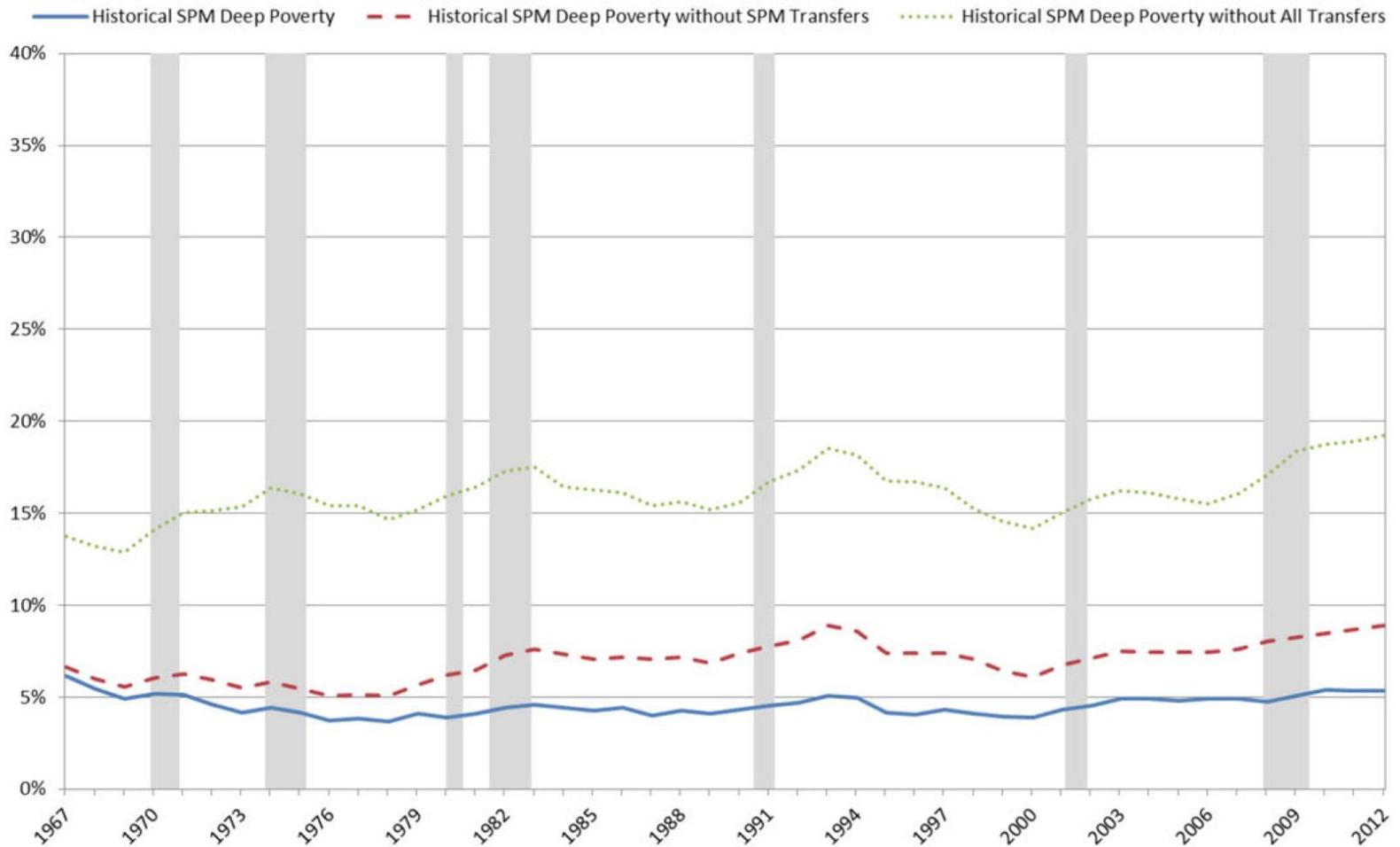


Figure 2. Official versus Historical Supplemental Overall Poverty Rates, 1967 to 2012.



Note: Shaded bars are recessions as defined by NBER. SPM Transfers include: SNAP, housing subsidies, school lunch, energy subsidies, WIC, EITC and stimulus payments; All Transfers include: SPM transfers plus cash welfare, SSI, Social Security and unemployment insurance, worker's compensation, veteran's payments.

Figure 4. (a) Overall Poverty, with and without SPM and Total Transfers, 1967 to 2012. (b) Overall Deep Poverty, with and without SPM and Total Transfers, 1967 to 2012.

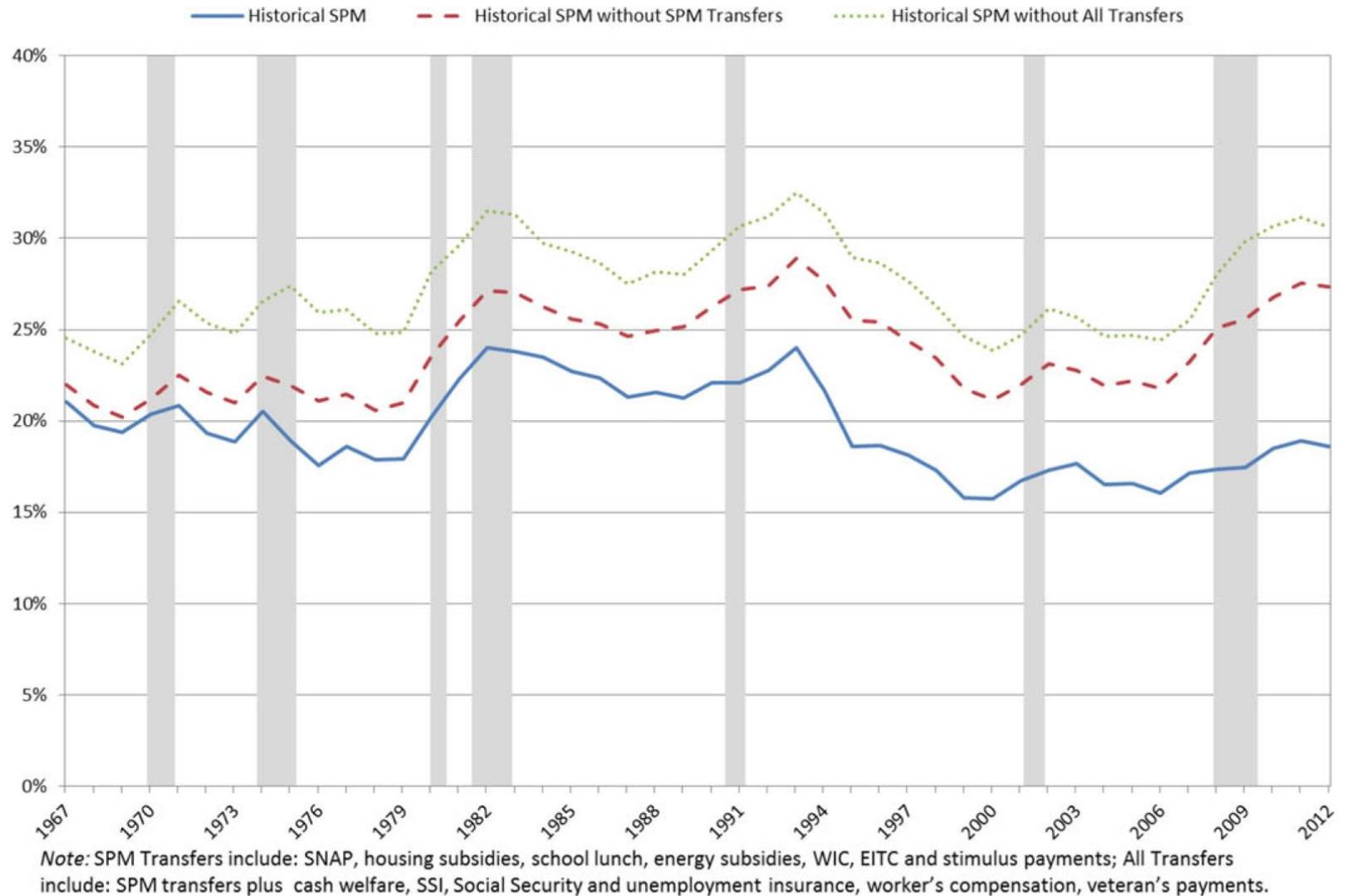


Figure 6. (a) Child Poverty, with and without SPM and Total Transfers, 1967 to 2012. (b) Child Deep Poverty, with and without SPM and Total Transfers, 1967 to 2012.

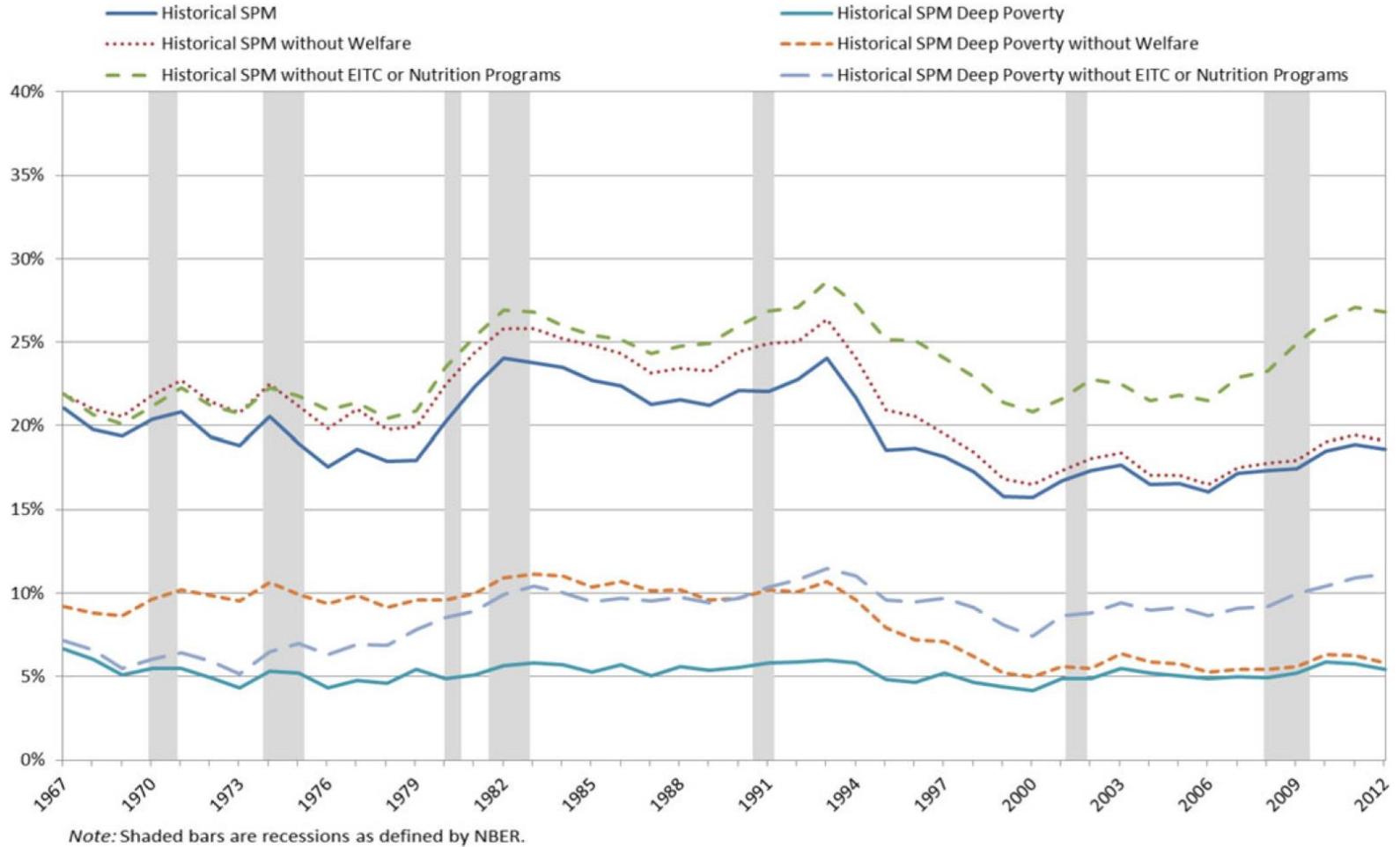
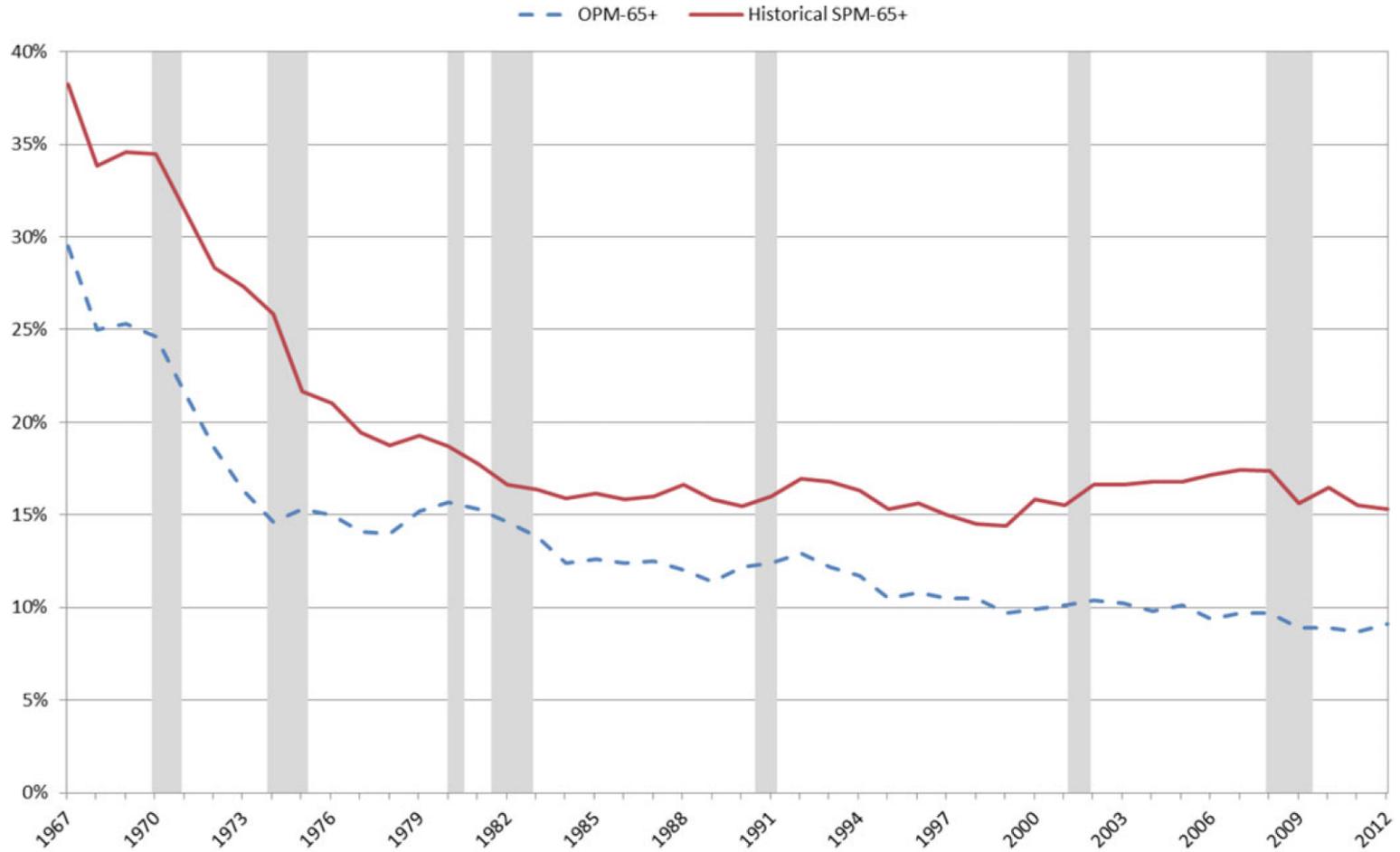


Figure 7. Individual Impact of EITC and Welfare on Child Poverty and Child Deep Poverty, 1967 to 2012.



Note: Shaded bars are recessions as defined by NBER.

Figure 8. Elderly Poverty, 1967 to 2012.

Wimer et al “Trends in Poverty with an Anchored SPM”

- What do they do?
- Thresholds
 - Use current year thresholds and use CPI to take back in time. Turns into absolute standard.
- Resource measure
 - As with historical SPM, they have to impute missing data (predict models for program receipt, etc)
 - Sidebar *TAXSIM*
- Comparison to historical SPM: lot’s of missing years of data for calculating threshold.
- This get us back to an absolute measure: we can conclude that any trends over time in the measure is due to the changes in resource measure (rather than also potentially coming from changes in the threshold measure, which is a relative one)

Figure 2: Official vs Supplemental Poverty Rates, 1967-2012

..... OPM — SPM (Anchored, 2012)

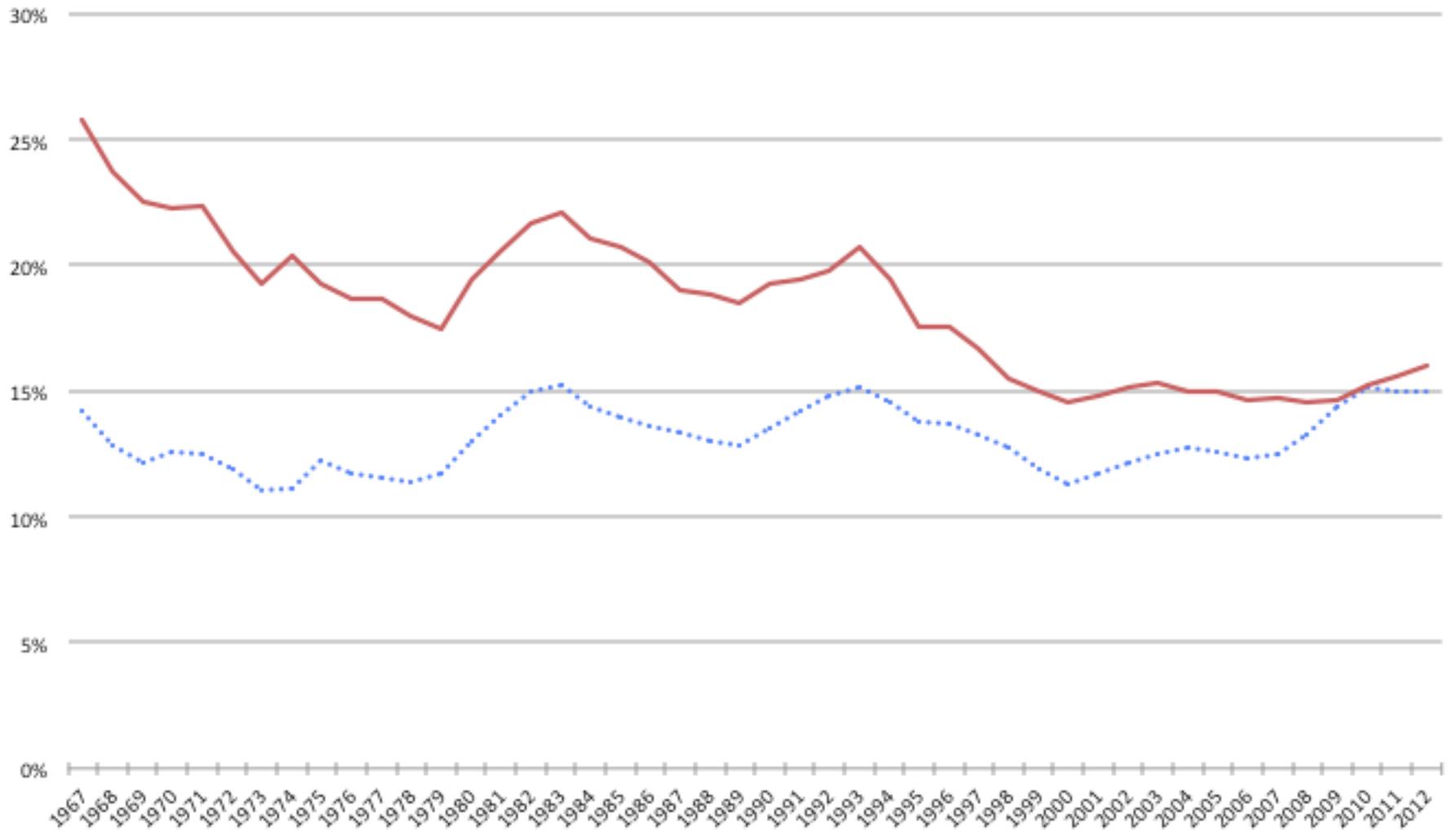


Figure 3: Child Poverty, OPM and Anchored SPM, 1967-2012

OPM-Under 18 Anchored SPM - Under 18

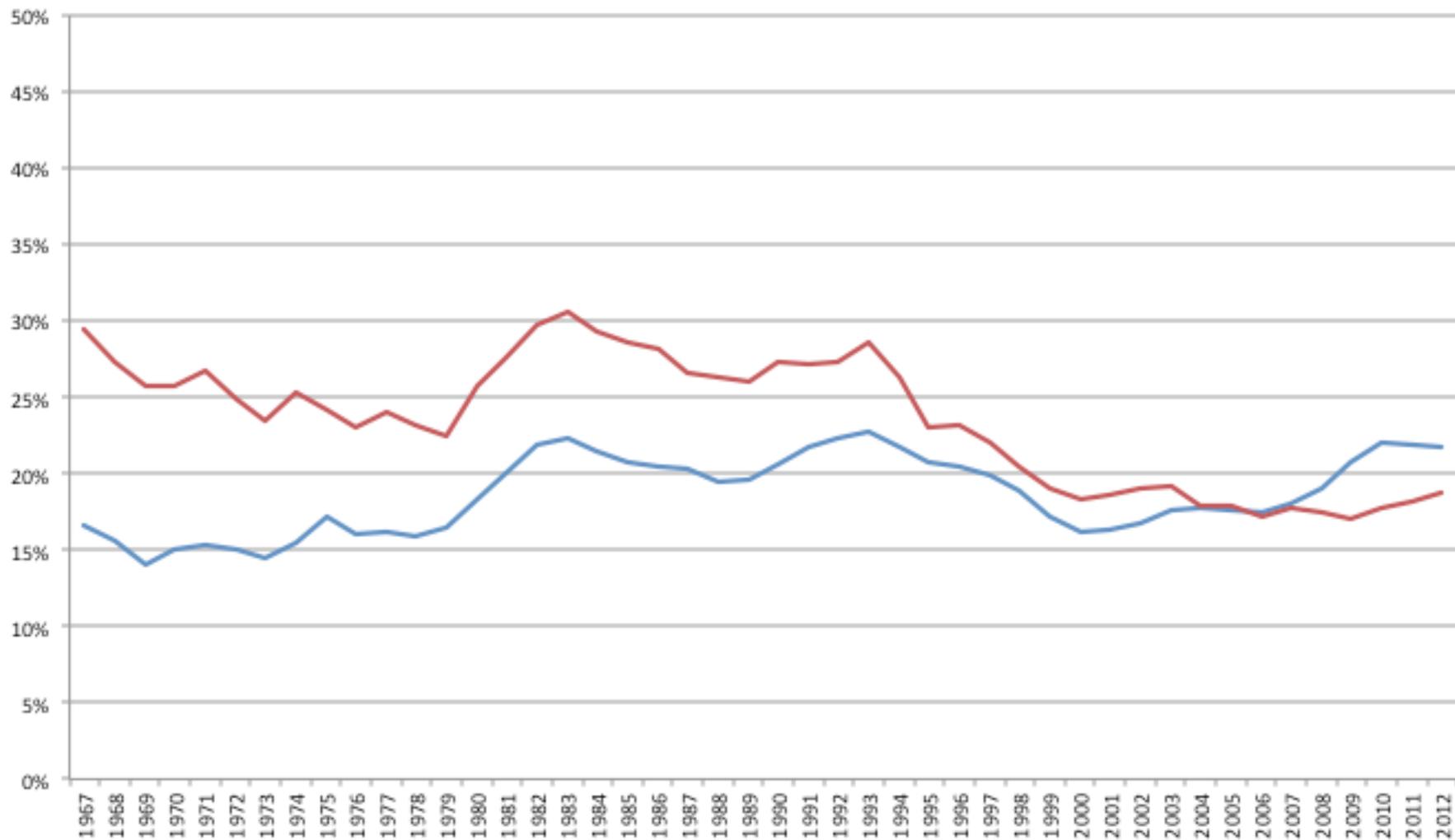


Figure 5: Elderly Poverty, OPM and Anchored SPM, 1967-2012

OPM-65+ Anchored SPM - 65+

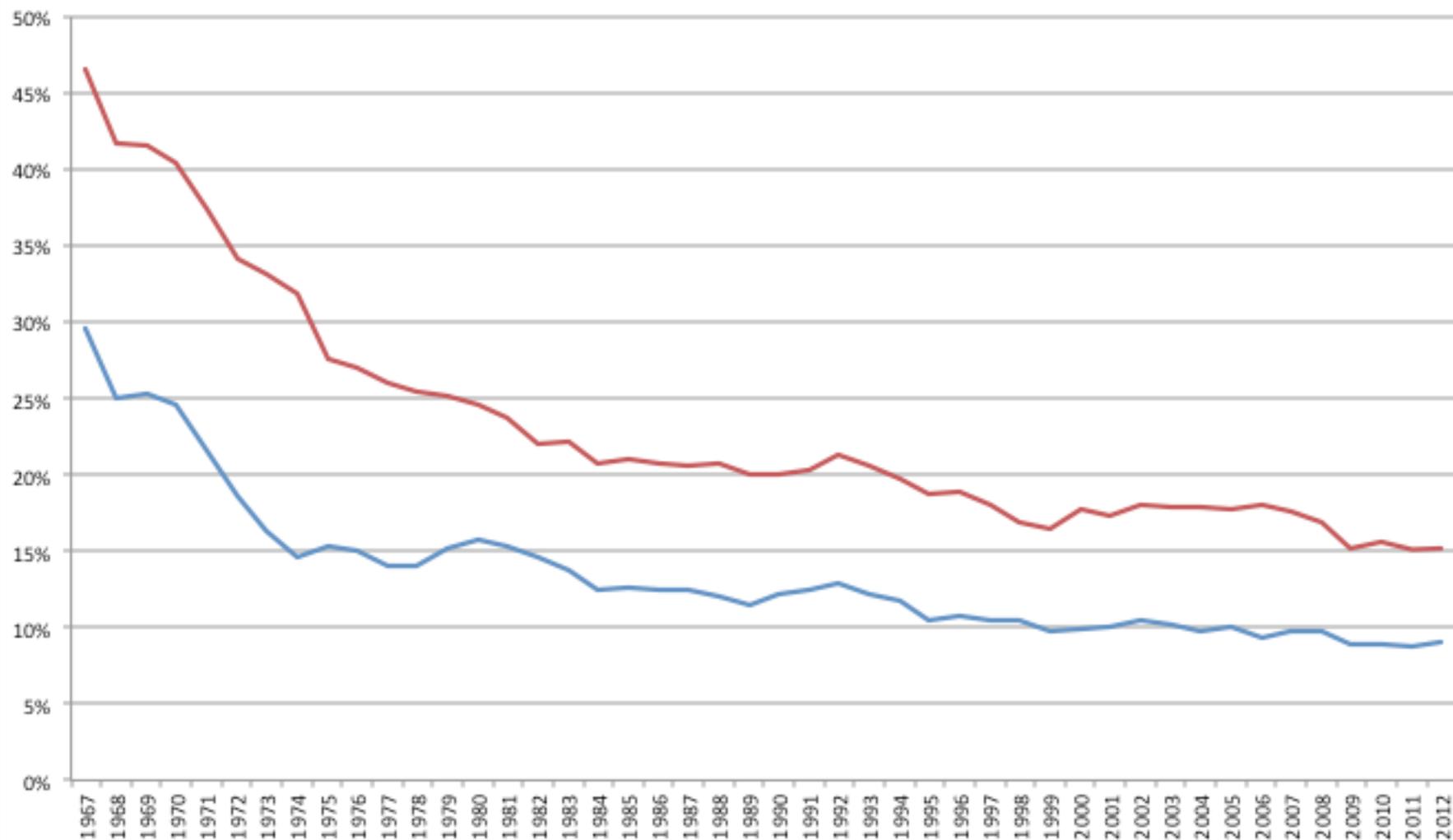


Figure 6: Effects of Taxes and Transfers on Poverty Rates, 1967-2012

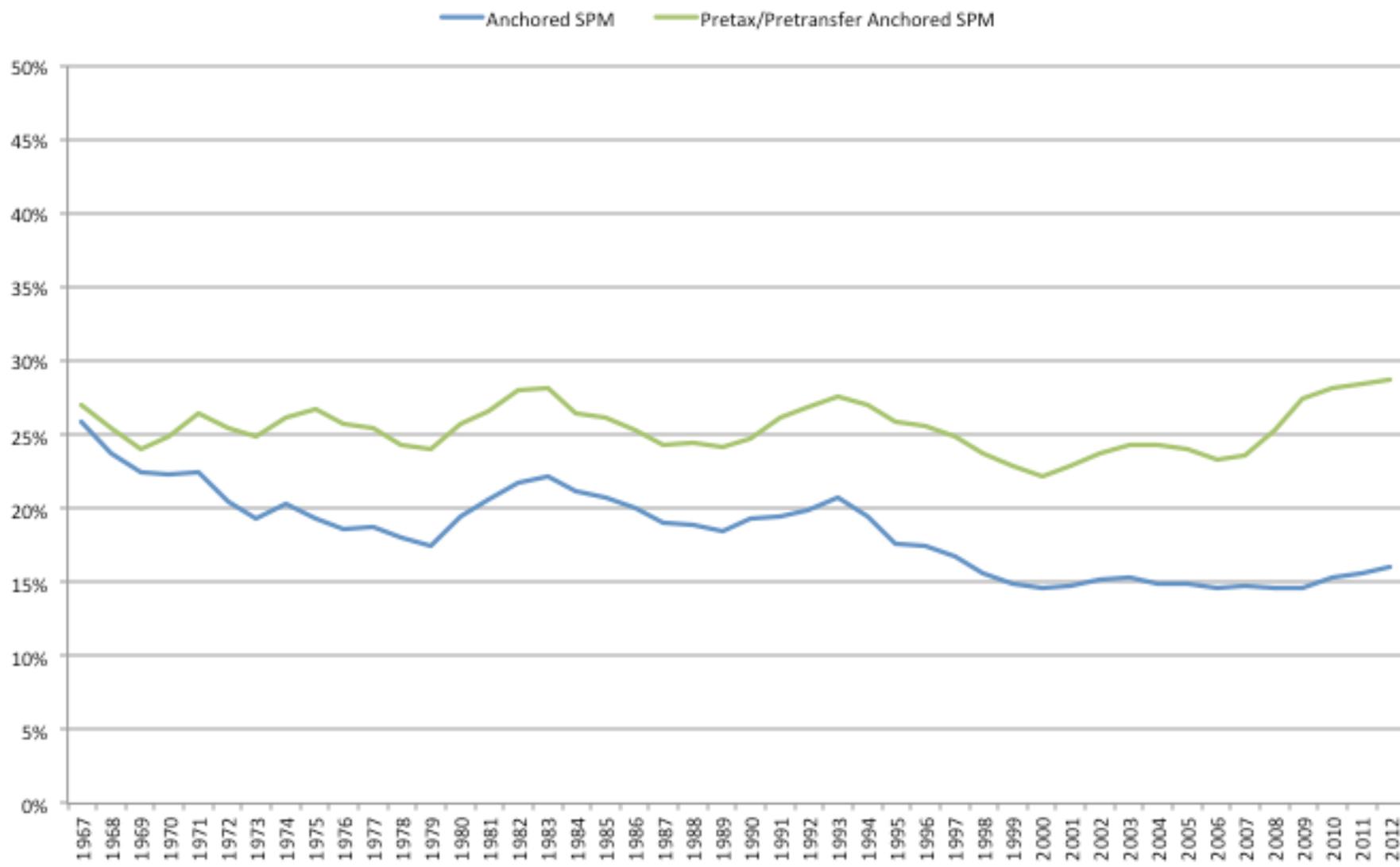
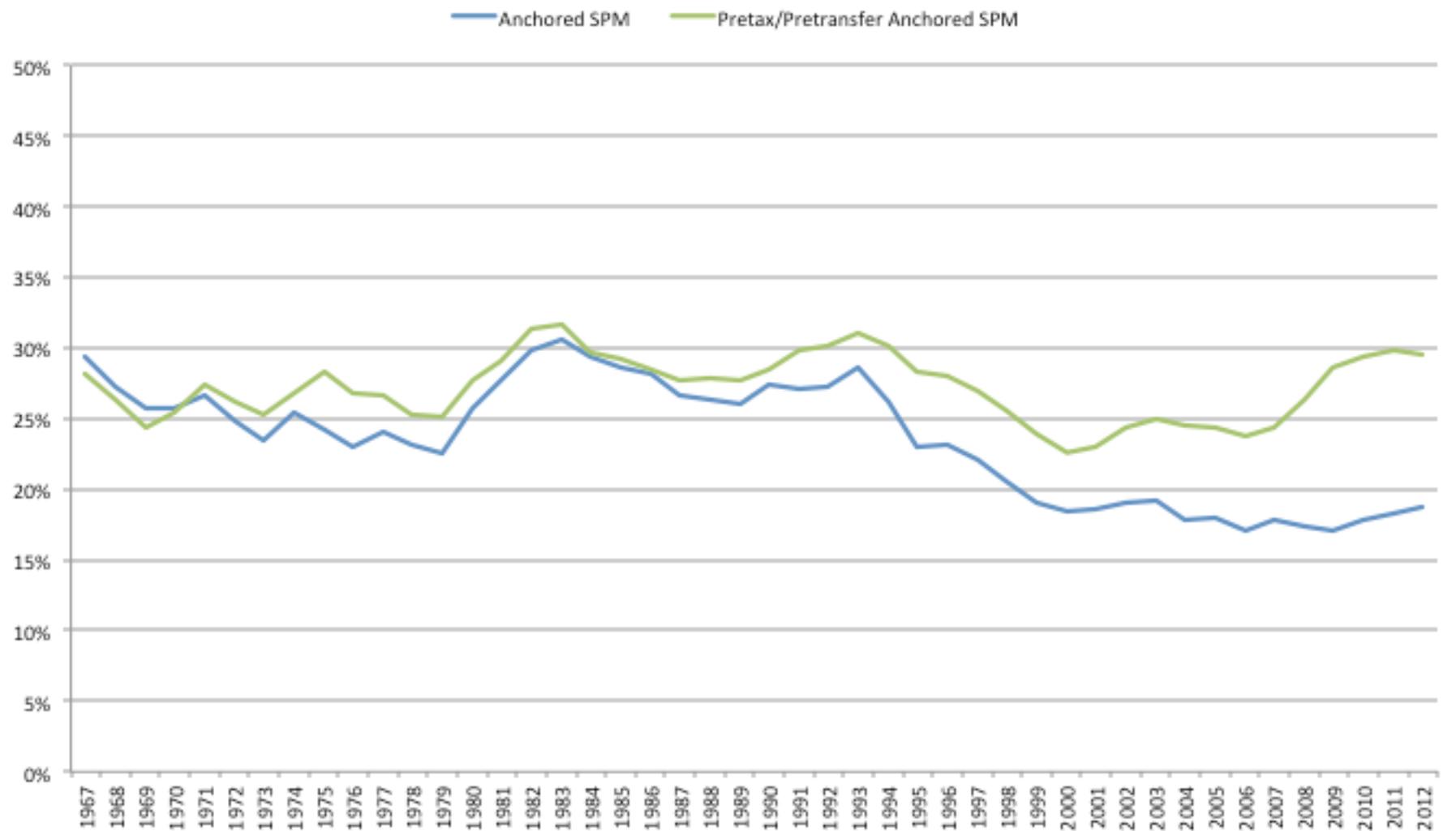


Figure 8: Effects of Taxes and Transfers on Child Poverty Rates, 1967-2012



Critique of Income Based Poverty (especially as it relates to trends)

- Bruce Meyer (Harris School) has documented that surveys (e.g. CPS) undercount government transfers.
 - How would you conclude that?
- Not only do our surveys undercount this but they seem to be getting worse over time.
- Implication – the growth of measured income is below true income growth → the growth of measured poverty is above true poverty growth
- One solution to this problem is using a consumption poverty measure; and that is what they do.

The New York Times

The War on Poverty at 50

By Jared Bernstein** January 6, 2014 10:44 am

THE WAR ON POVERTY 50 YEARS LATER: A PROGRESS REPORT

The Council of Economic Advisers

January 2014



Center on
Budget
and Policy
Priorities

Poverty Has Fallen Significantly Since 1960s Under “Anchored” Supplemental Poverty Measure

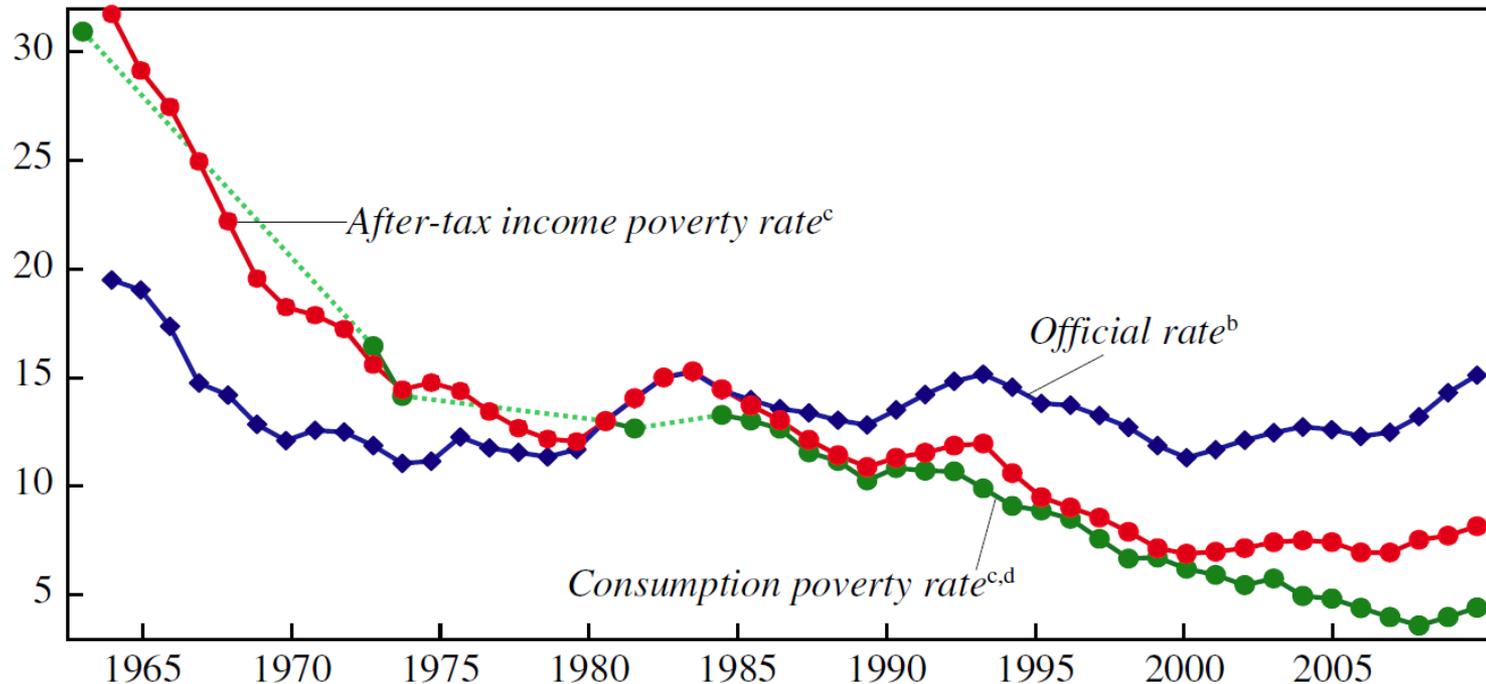
Washington Center
for Equitable Growth



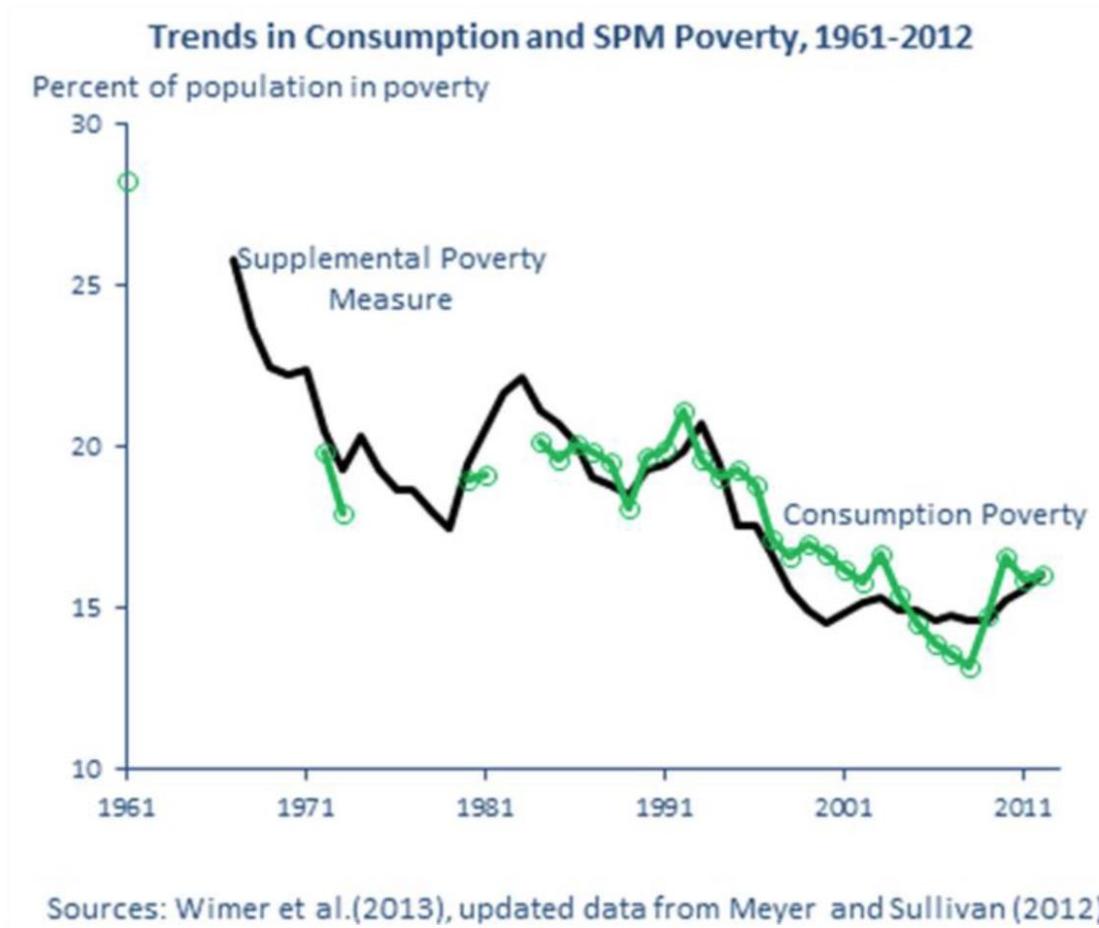
**Morning Must-Read: Christopher Wimer et al.: Trends in
Poverty with an Anchored Supplemental Poverty
Measure**

Figure 2. Official and Alternative Income Poverty Rates and Consumption Poverty Rate, 1960–2010^a

Percent of population



- Consumption measure: create threshold (same as for income based poverty measure). Compare consumption to the threshold.



Source: CEA report on War on Poverty. Compares anchored SPM and consumption based measure. Measures are normalized to have the same value in 2012.

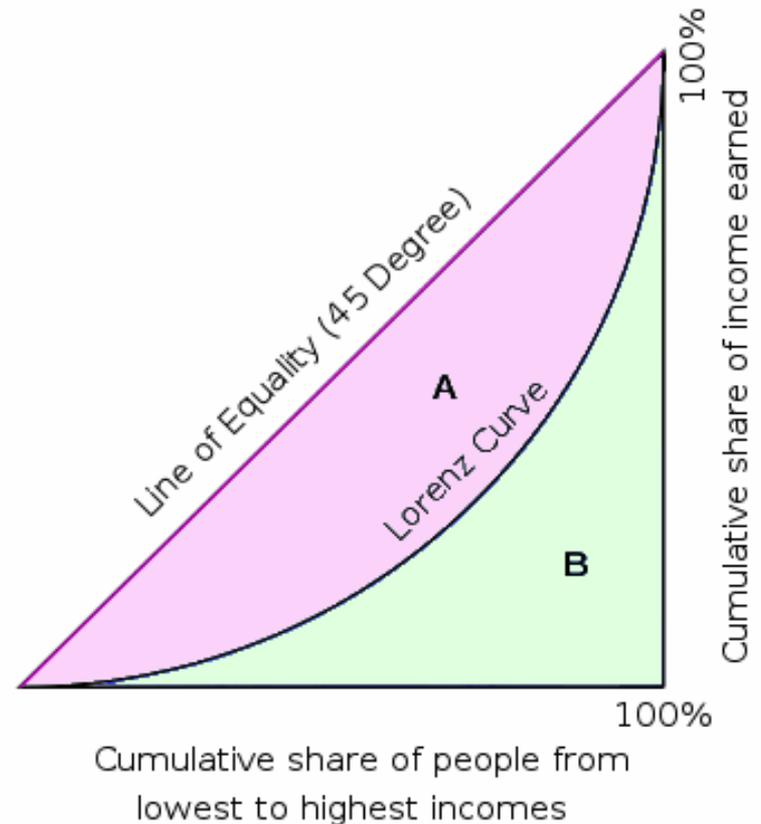
Limitation of consumption measure: no way to do calculation of how safety net programs affect poverty.

Back to measurement -- Inequality

- Poverty – “lower tail” inequality
- Also want broader measures of inequality
 - Goal: capture and measure differences in income across the distribution
 - Also, want to capture degree of concentration at the top of the distribution

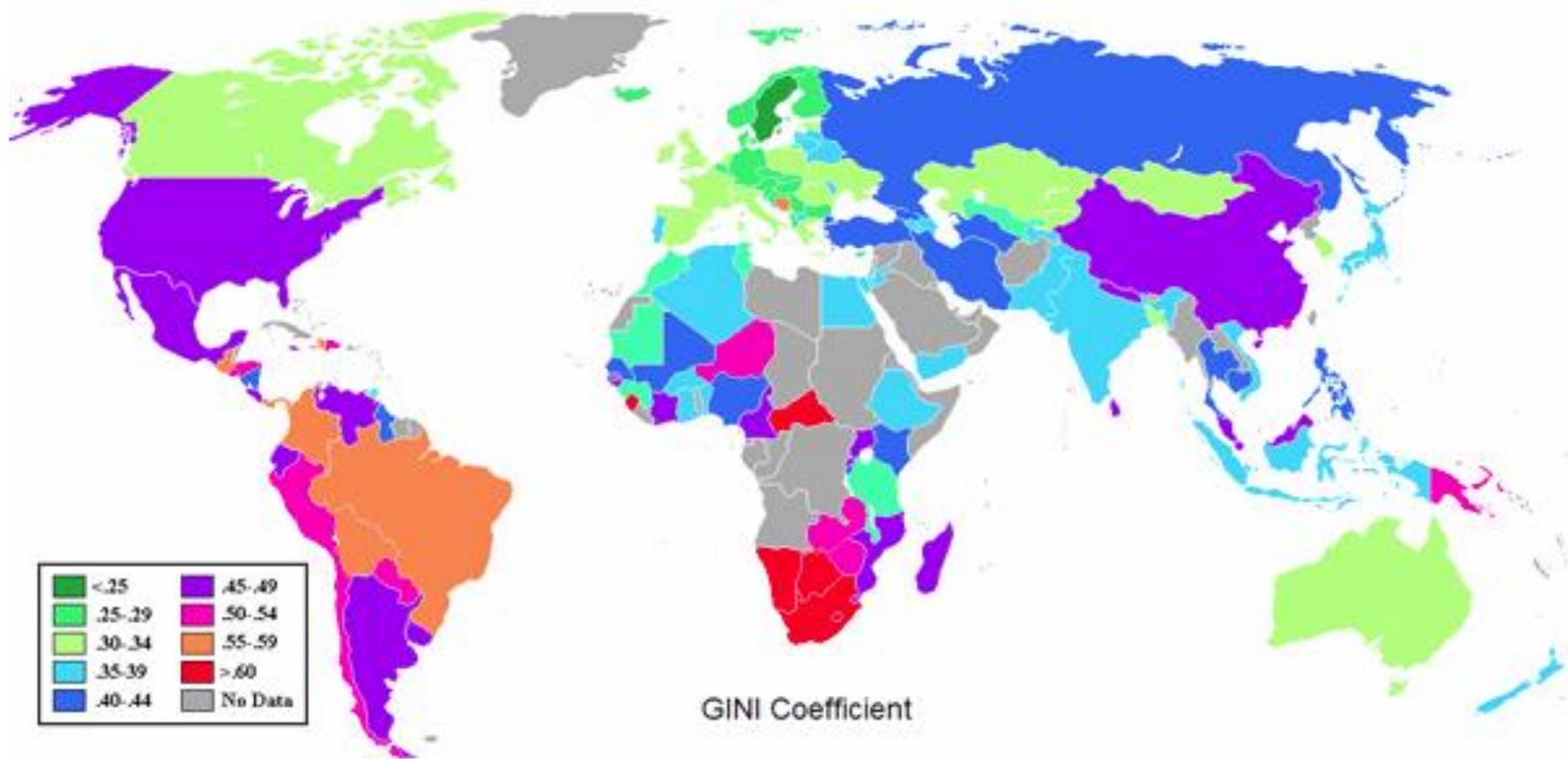
Inequality -- The Gini

- Summary measure
- Gini index measures the extent to which the distribution of income deviates from perfectly equality
- Lorenz curve : cumulative percentages of total income against the cumulative number of recipients
- $Gini = A/(A+B) * 100$
- Ranges from 0 perfect equality to 100 perfect inequality.



The Gini

- Advantage: one number, nice scaling
- Disadvantage: not nuanced, does not tell you about where the inequality is



GINI Coefficient

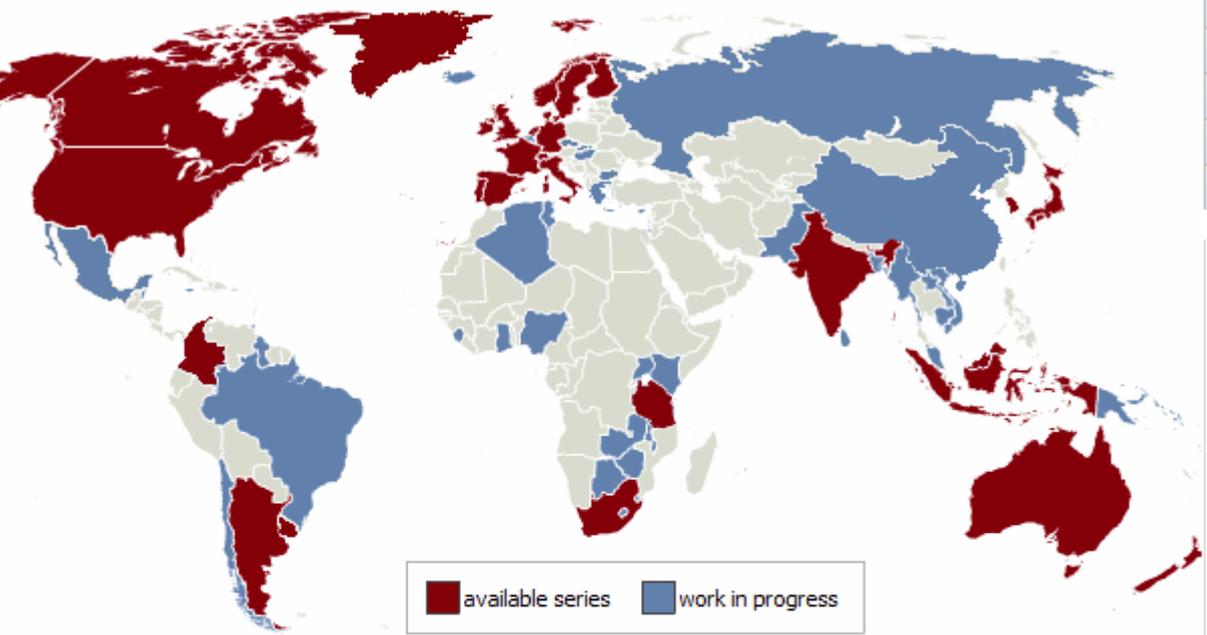
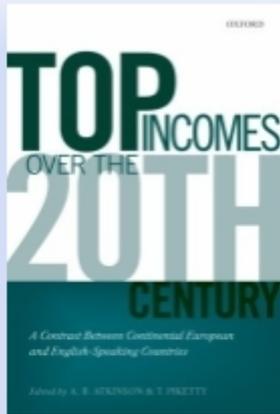
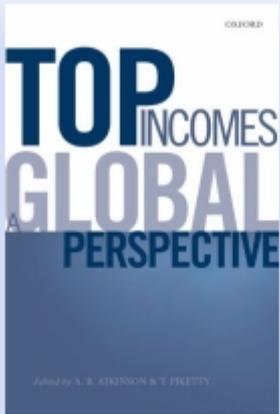
Inequality – other measures

- Ratios of different points in the data
- 90/10
- 50/10
- 90/50
- 75/25
- Characterize relative income levels

Inequality: Top Income Shares

- Piketty and Saez have developed a world database for measuring inequality
- Getting data to measure the level and trend in incomes at the very top of the distribution is hard. Standard survey data does not have enough observations for these high income earners. And, surveys usually “topcode” income to protect anonymity
- Piketty and Saez came up with the novel idea of using data from income tax returns to estimate trends in top incomes. This is high quality data that is provided by most countries.
- These data are not well suited to measuring incomes at the lower tail of the distribution since many low income folks do not have to file taxes. But it is exceedingly good data for measuring high income.

The World Wealth and Income Database



- Home
- Introduction
- The Database
- Graphics
- Country Information
- Work in Progress
- Acknowledgments



The facts for the U.S.

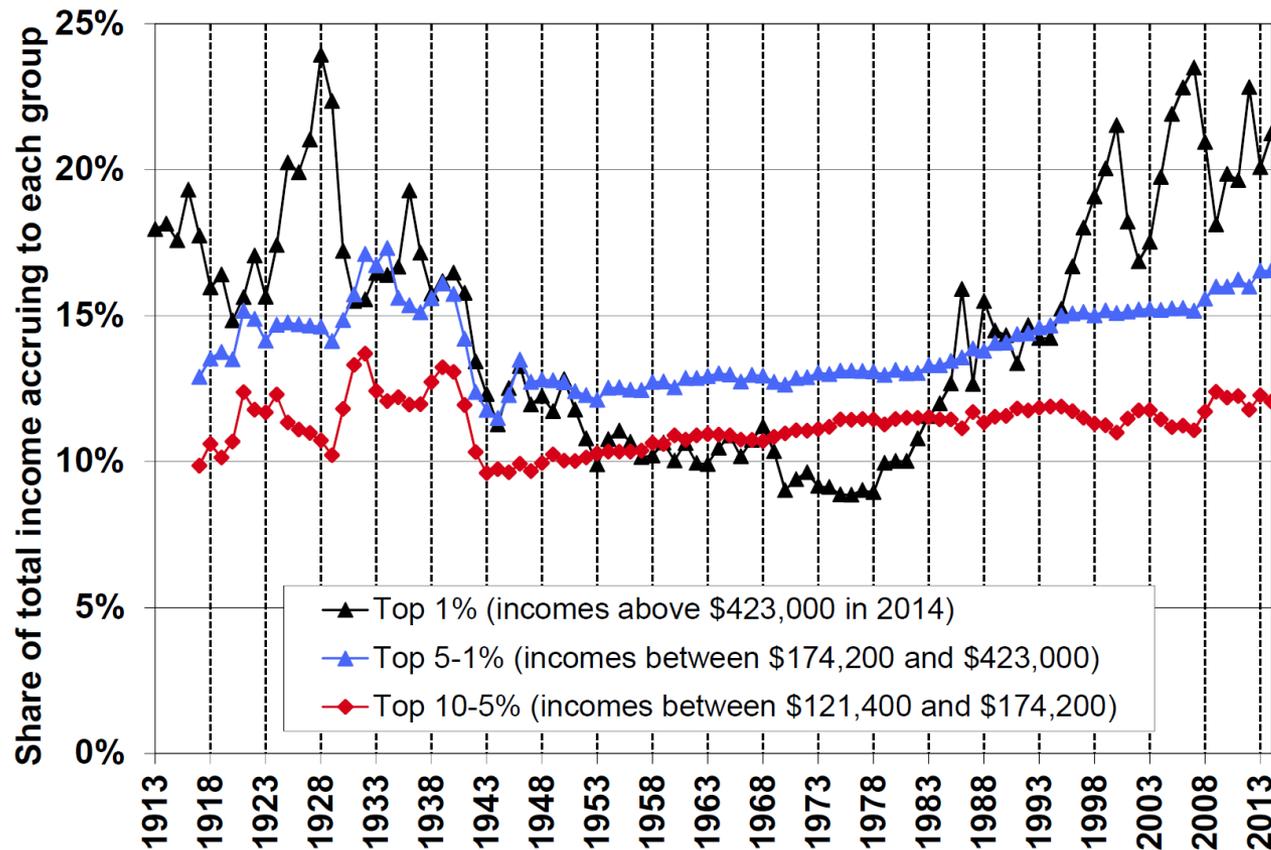


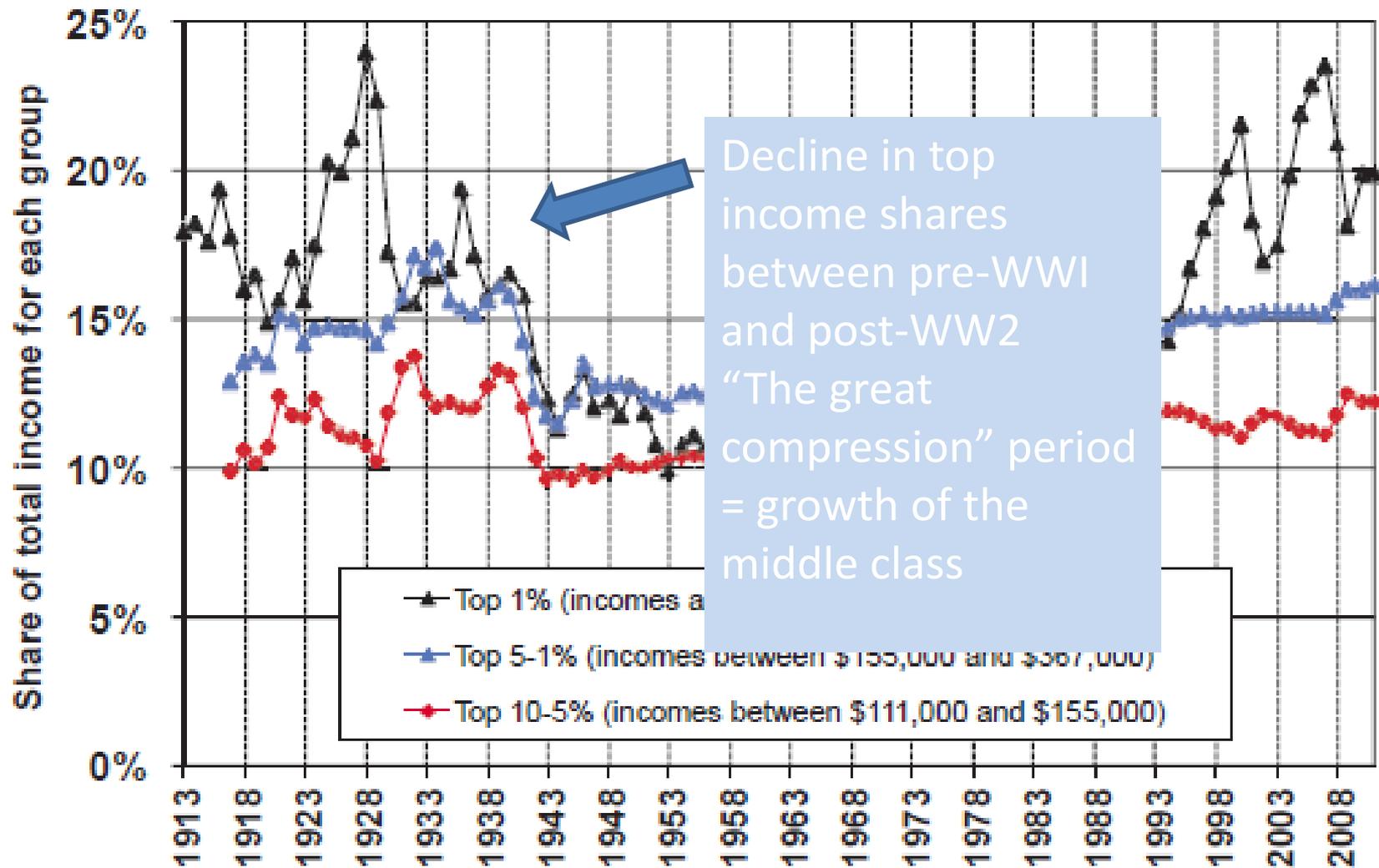
FIGURE 2

Decomposing the Top Decile US Income Share into 3 Groups, 1913-2014

Source: Table A3, cols. P90-95, P95-99, P99-100.

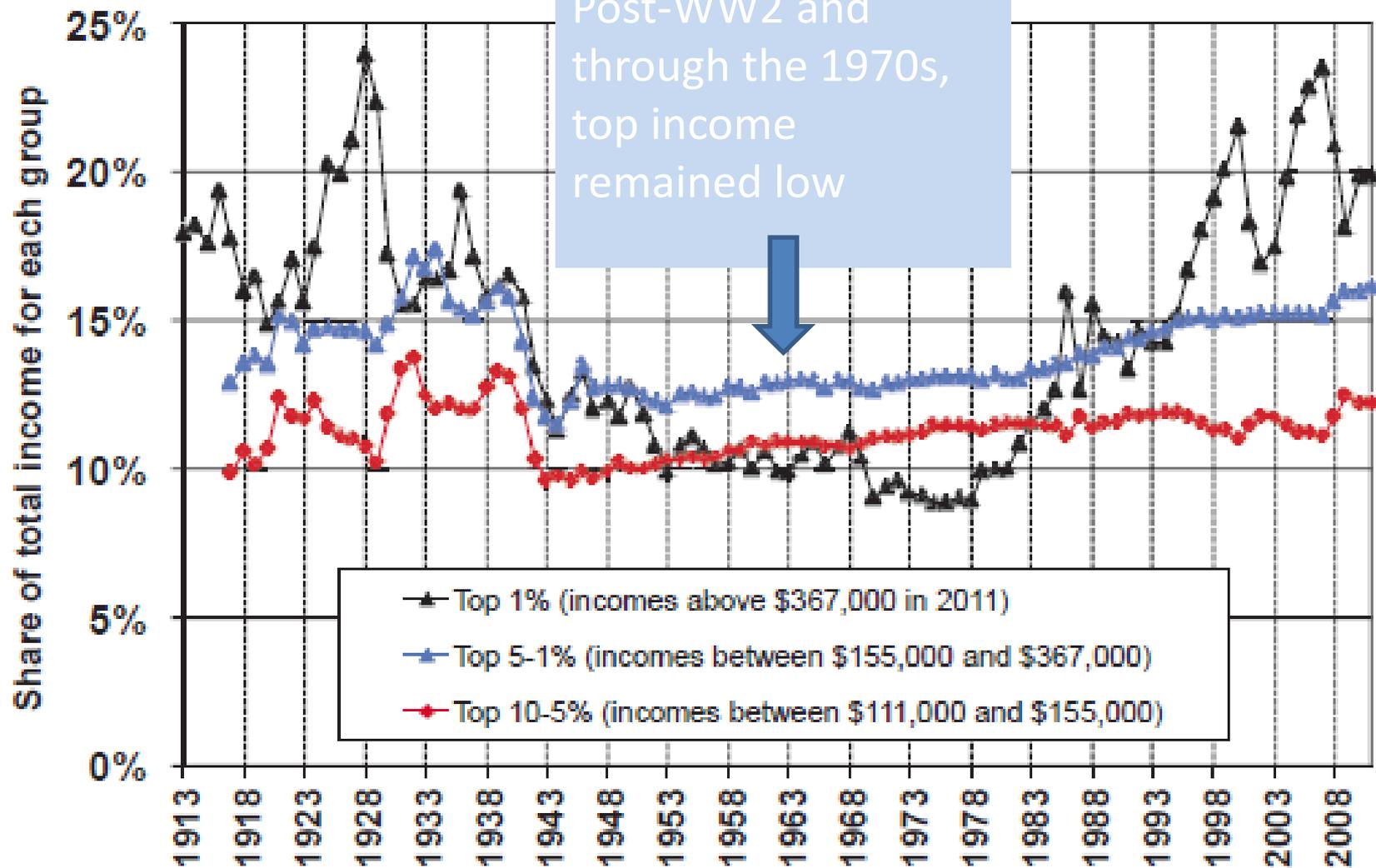
Income is defined as market income including capital gains.

Decomposing Top 10% into 3 Groups, 1913-2011



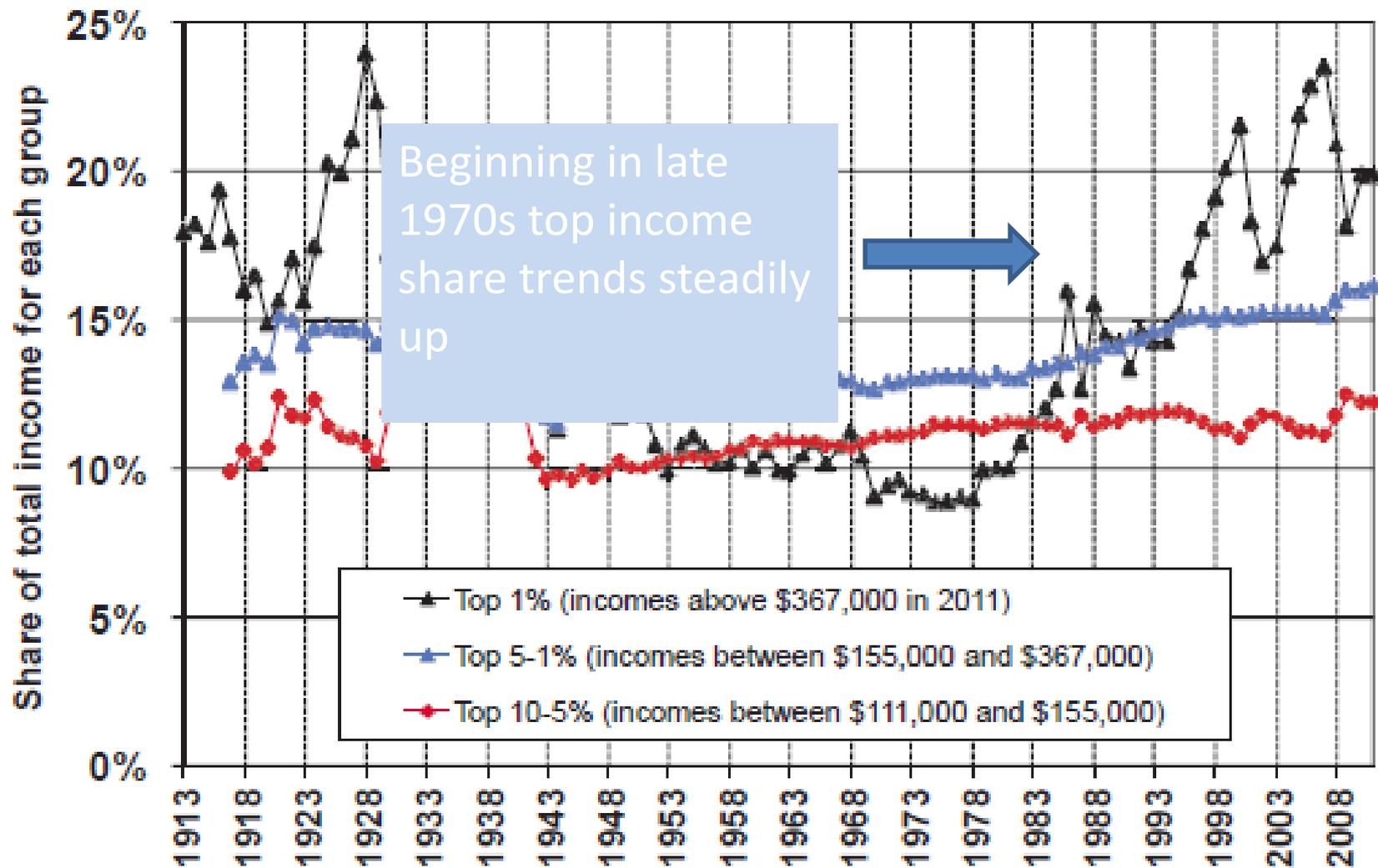
Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

Decomposing Top 10% into 3 Groups, 1913-2011



Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

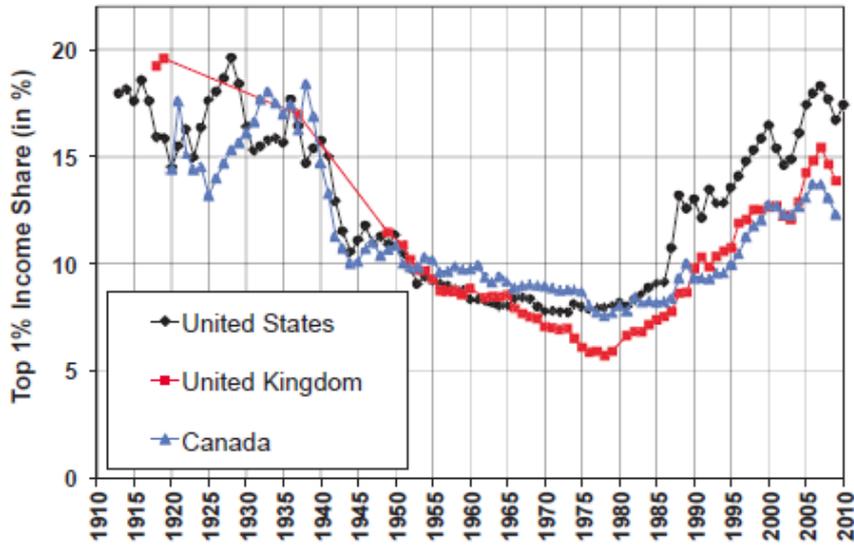
Decomposing Top 10% into 3 Groups, 1913-2011



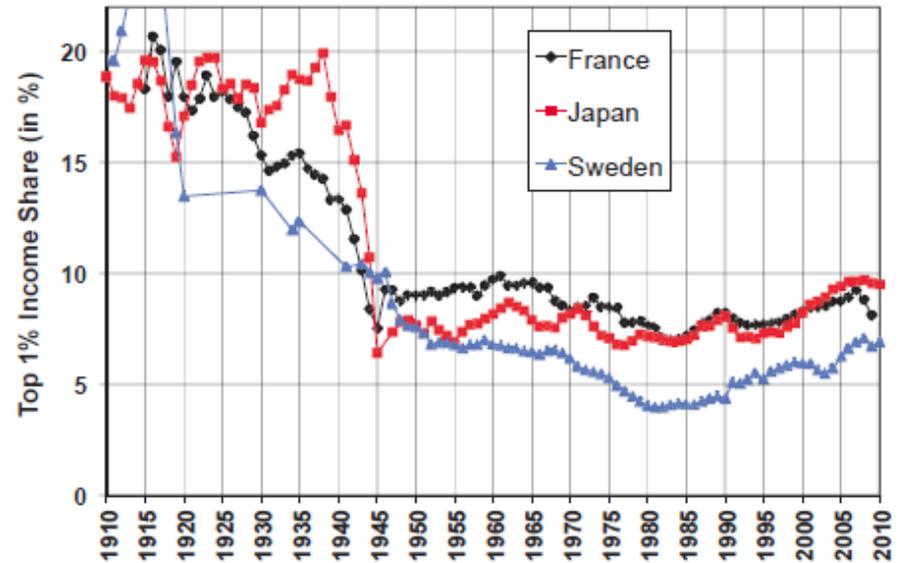
Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

- To explore the reasons for the current upward trend in top income shares it is instructive to compare the U.S. to other countries

Top 1% share: English Speaking countries (U-shaped)

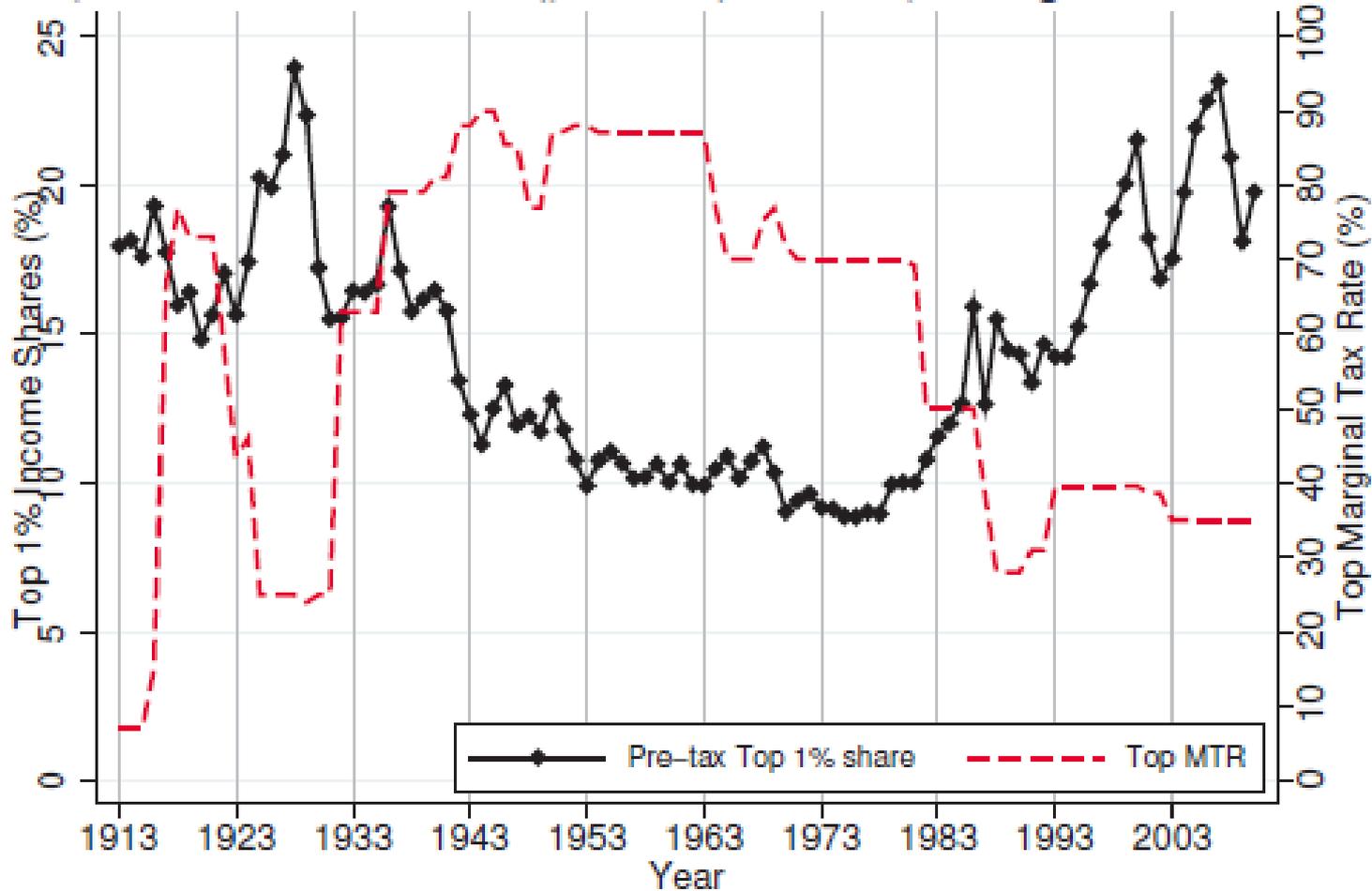


Top 1% share: Continental Europe and Japan (L-shaped)

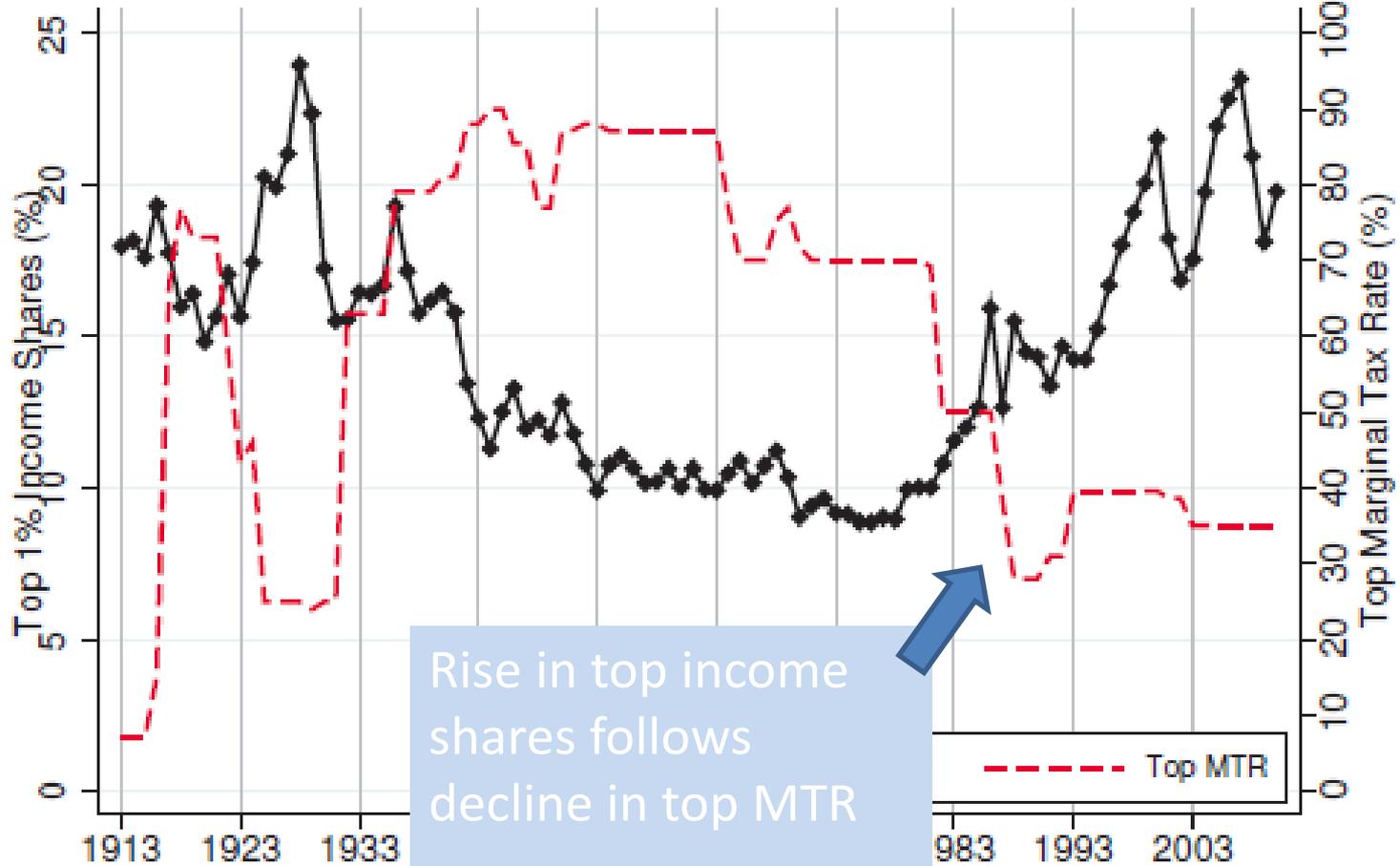


- The period through the 1970s was similar in the U.S. compared to other countries → suggesting that global factors were responsible
- The upward trend beginning in the late 1970s IS NOT experienced by all countries → suggesting that global factors CAN NOT explain the trend

Top 1% Income Share (pre-tax) and Top Marginal Tax Rate



Top 1% Income Share (pre-tax) and Top Marginal Tax Rate

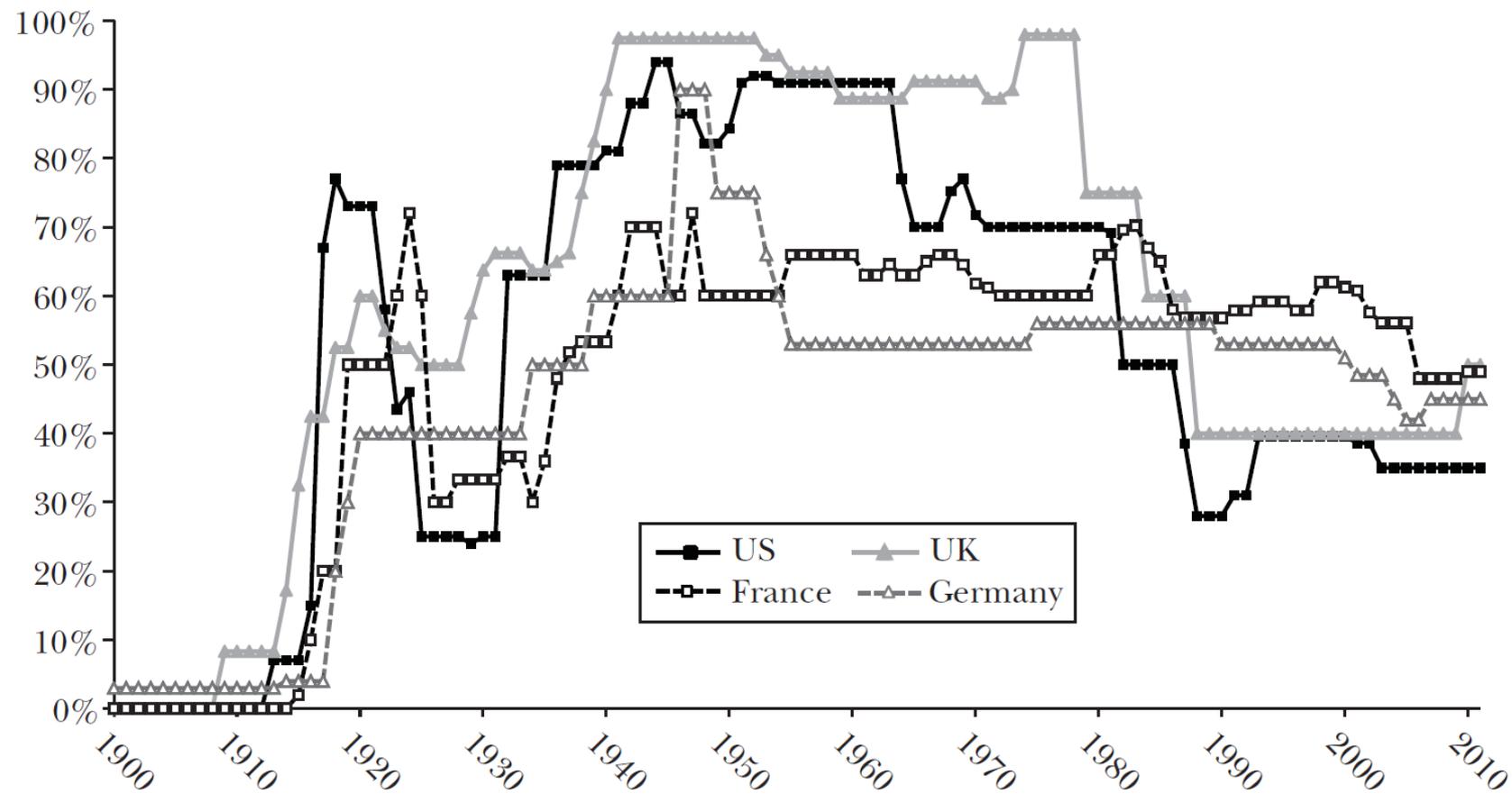


Rise in top income shares follows decline in top MTR

Top MTR

Figure 3

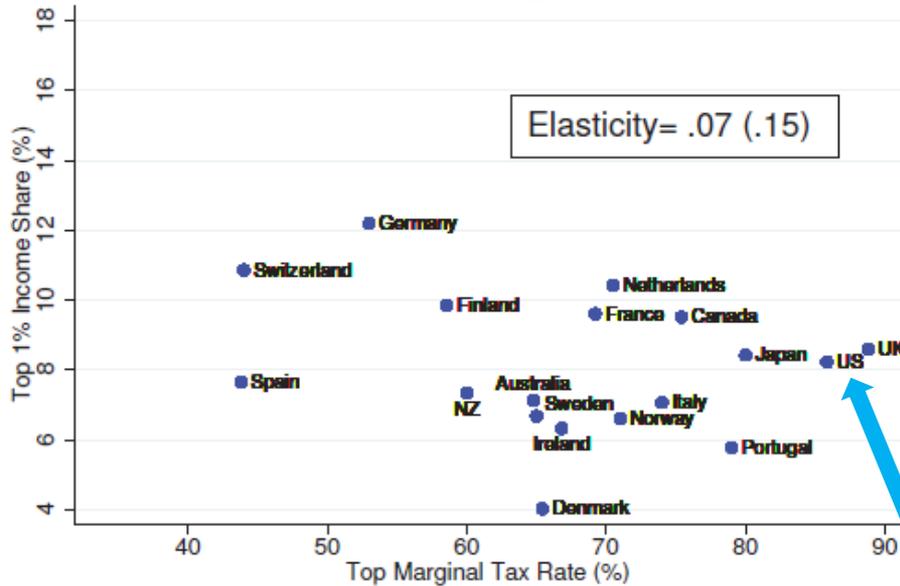
Top Marginal Income Tax Rates, 1900–2011



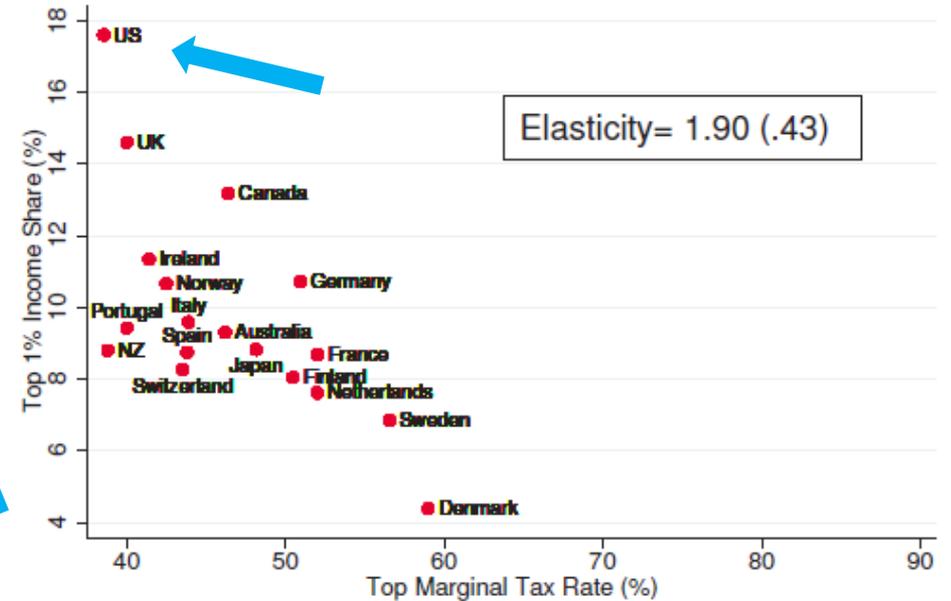
Source: Piketty and Saez (2013, figure 1).

Source: Alvaredo et al JEP 2013.

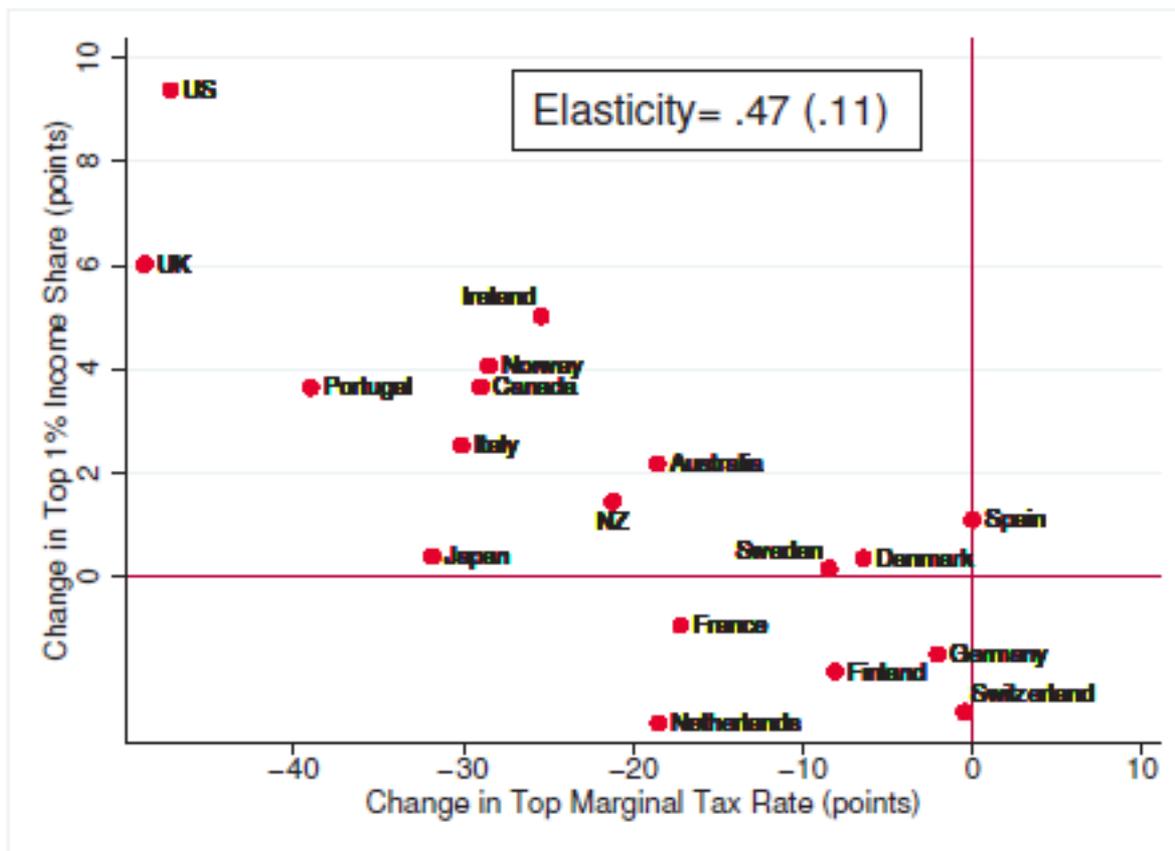
A. Top 1% Share and Top Marginal Tax Rate in 1960–4



B. Top 1% Share and Top Marginal Tax Rate in 2005–9



- Greater progressive taxation (higher top MTR) is associated with LESS inequality
- Amazingly, back in the early 1960s the US was on the HIGH end of progressivity of the income tax (and the middle of the pack in inequality)
- Today we have the highest inequality and very low progressivity



Change in Top Tax Rate and Top 1% Share, 1960-4 to 2005-9

- The difference-in-difference estimates show a very similar pattern
- Best available evidence suggests that the recent trend of increased inequality is driven in part by the lack of progressivity in the U.S. tax code

INEQUALITY, MOBILITY AND OPPORTUNITY

Hilary Hoynes

PP290

Outline

1. Chetty et al, DATA
2. Chetty et al, measuring intergenerational mobility
3. Trends in intergenerational mobility

Intergenerational Mobility

- New project on intergenerational mobility (Chetty & Saez and others).
- This is a very old question in economics and there has been a lot of studies of it
- Observe children and parents – link income of the parents to the subsequent income of the children
- They have examined this geographically as well as looking at the trends over time.

The Data

- Universe of tax filers; not only 1040 form but many other items that are reported to the IRS.
 - W-2 (so don't have to fill tax return, important for lower income earners)
 - Report from the college/university to the IRS (for the purposes of tax credit verification) – this means we know where and when the kids go to school
 - Retirement savings
- Tax records cover 1996-present

The sample: children

- Primary sample is current U.S. citizens in 1980-82 birth cohorts
 - 10 million children, age 30-32 in 2012
- Expanded sample: 1980-1991 birth cohorts
 - 44 million children, age 20-32 in 2012
- Parent(s) defined as first person(s) who claim child as a dependent
 - Most children are linked to parents based on tax returns in 1996
 - About 95% of children to parents

How to measure intergenerational mobility?

- For a long time, the standard measure was the correlation between fathers and sons incomes or earnings, usually at some standardized age (say 35).
 - IGE intergenerational elasticity of child income with respect to parent income [from log-log regression]
- Typically use longitudinal data (as in the Pew study)
- As with the Gini, this gives us a good summary number, but it does not tell us much about how this varies across the distribution, etc.
- Their approach is requires a lot of data, well suited to having large administrative data sources

Survey vs Administrative Data for measuring intergenerational mobility



Pursuing the
American Dream:
Economic Mobility Across
Generations

- What are benefits of the Chetty et al approach compared to the Pew approach?

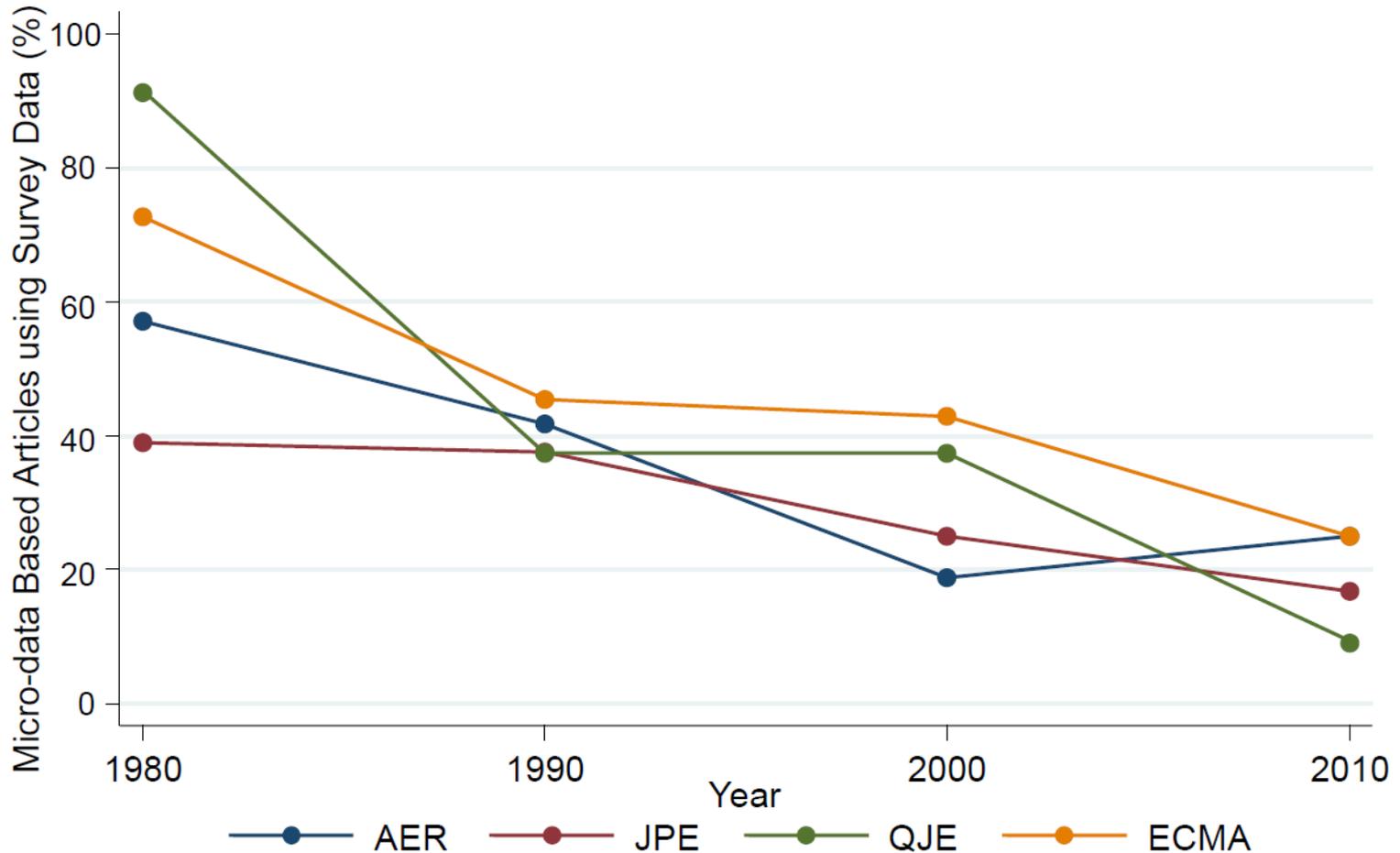
Survey vs Administrative Data for measuring intergenerational mobility

- PLUS for Administrative Data
- Higher quality information: virtually no missing data or attrition
 - CPS non-response rate now 31% for income
 - SIPP attrition rate exceeds 30% within three years
- Longitudinal tracking over long periods
- Very large sample sizes: 2,000 times the size of the CPS
 - Can develop new non-parametric, quasi-experimental research designs
 - Can dive into small geographic areas

Survey vs Administrative Data for measuring intergenerational mobility

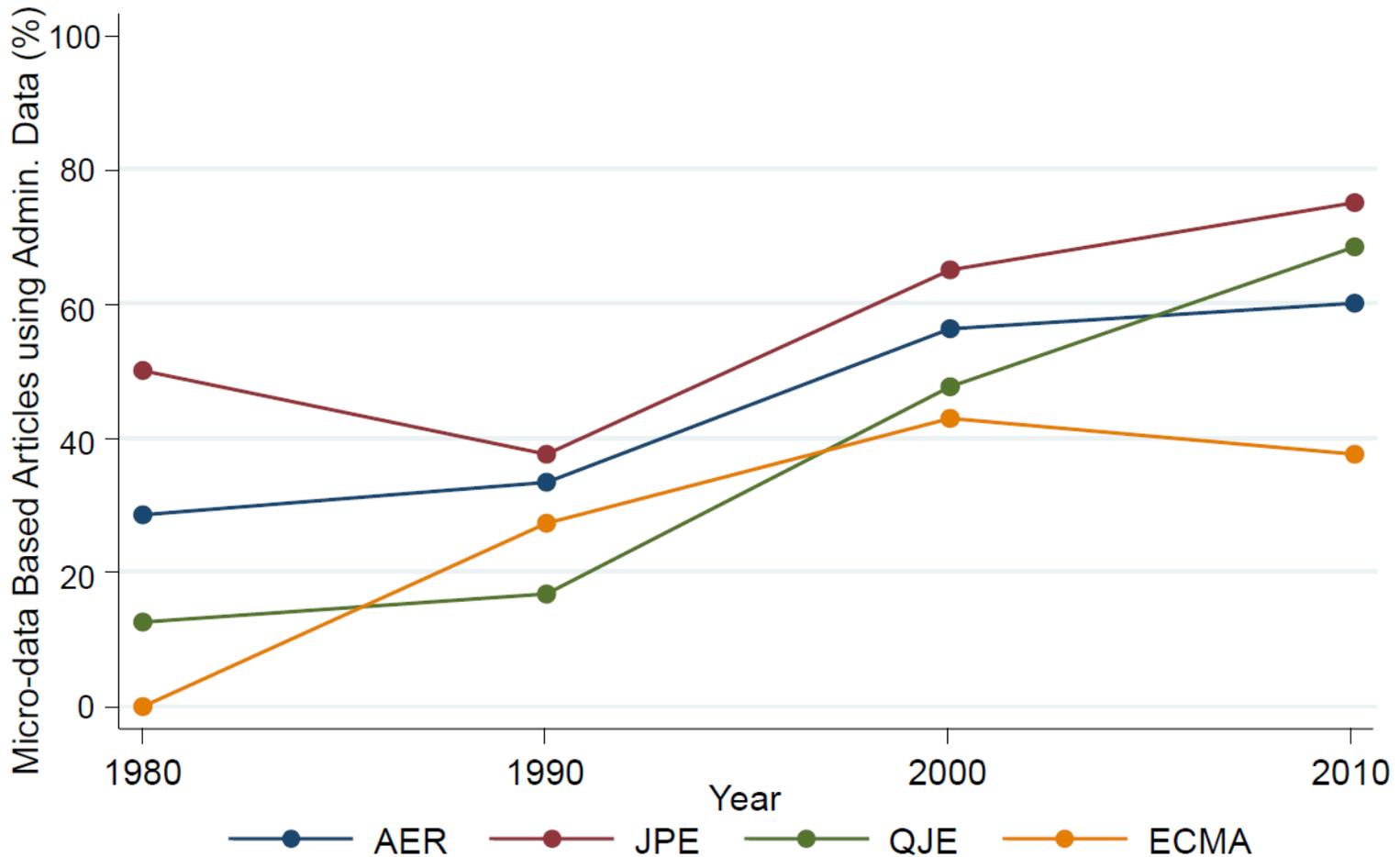
- PLUS for Survey Data
- Tax data misses social safety net almost entirely. What are missing at the lower end of the income distribution??
- Tax data does not measure some key characteristics such as race, parental education
- Aside: Chetty et al say less about whether the child earns more than the parent. Why might that be?

Use of Pre-Existing Survey Data in Publications in Leading Journals, 1980-2010



Note: "Pre-existing survey" datasets refer to micro surveys such as the CPS or SIPP and do not include surveys designed by researchers for their study. Sample excludes studies whose primary data source is from developing countries.

Use of Administrative Data in Publications in Leading Journals, 1980-2010



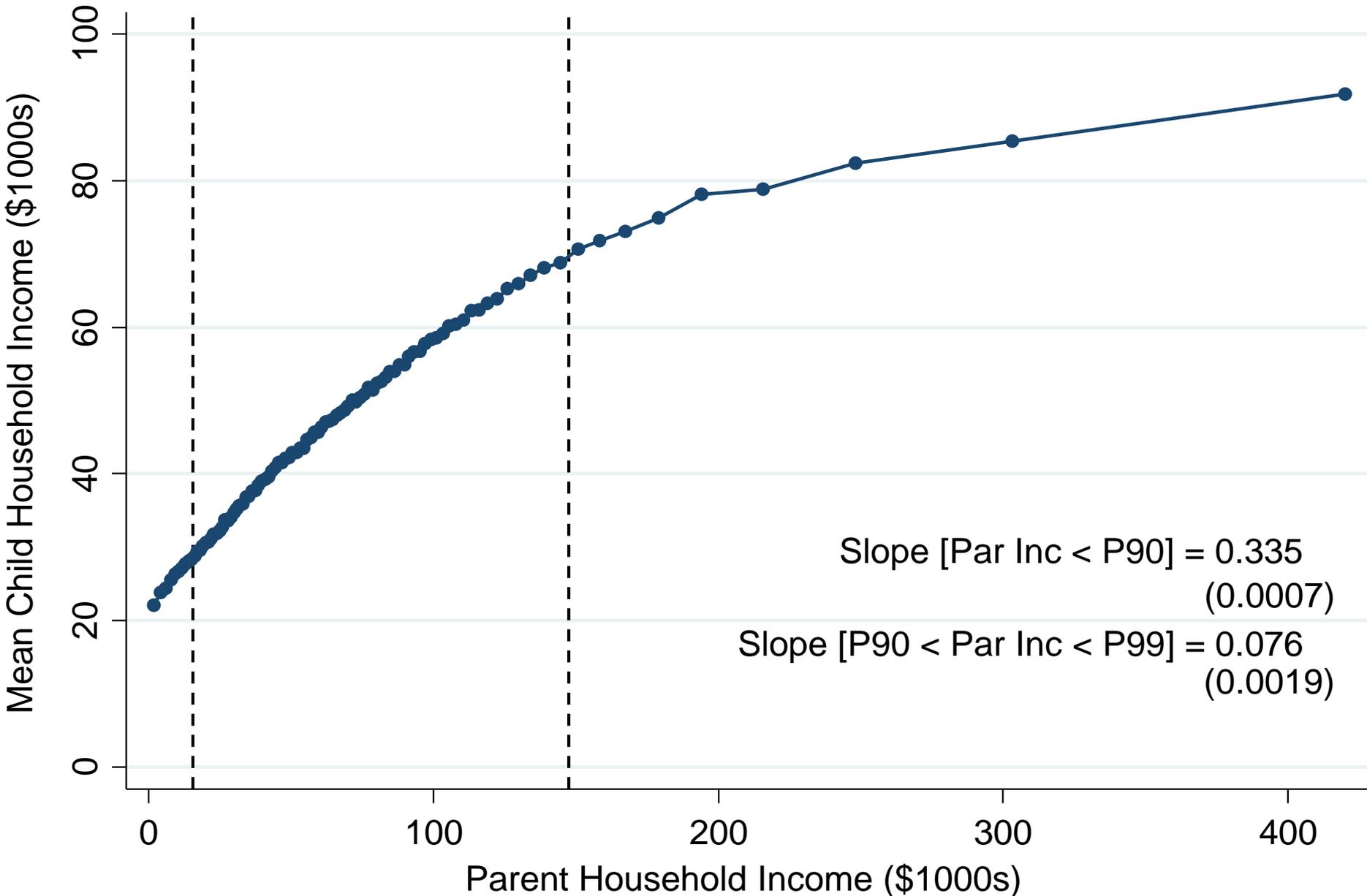
Note: "Administrative" datasets refer to any dataset that was collected without directly surveying individuals (e.g., scanner data, stock prices, school district records, social security records). Sample excludes studies whose primary data source is from developing countries.

Back to Chetty et al paper

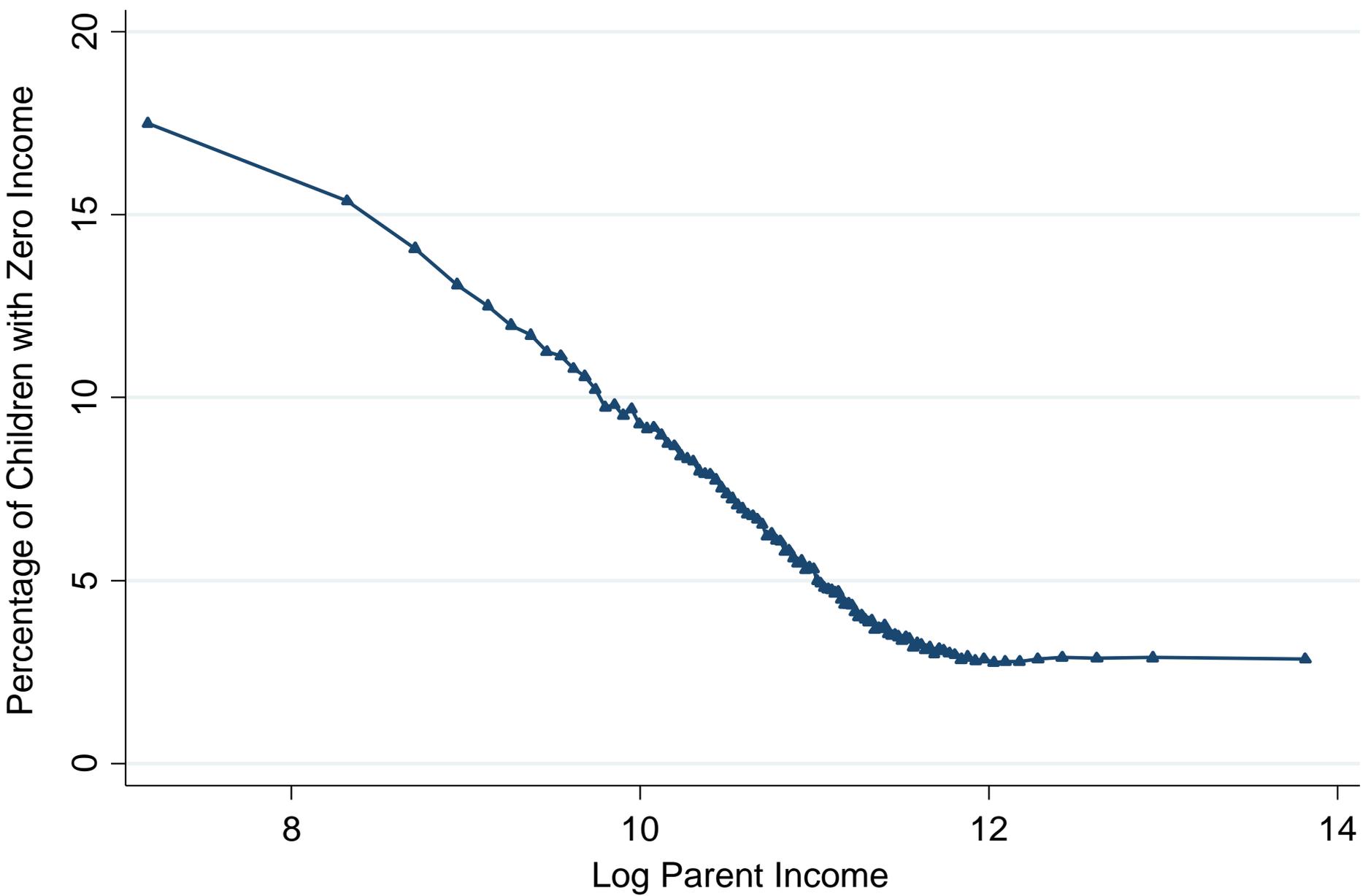
Key variables

- Parent income = average of the years the child is 15-19.
 - Parent Income: mean pre-tax household income (AGI+SSDI+UI) between 1996-2000
- Child's income = average at ages 29-30.
 - Child Income: mean pre-tax household income between 2010-2012
 - For the younger cohorts, they instead use college attendance and college quality.
- For non-filers, use W-2 wage earnings + SSDI + UI income
 - If no 1040 and no W-2, code income as 0

Mean Child Household Income at Age 30 vs. Parent Household Income



Fraction of Children with Zero Income vs. Log Parent Income



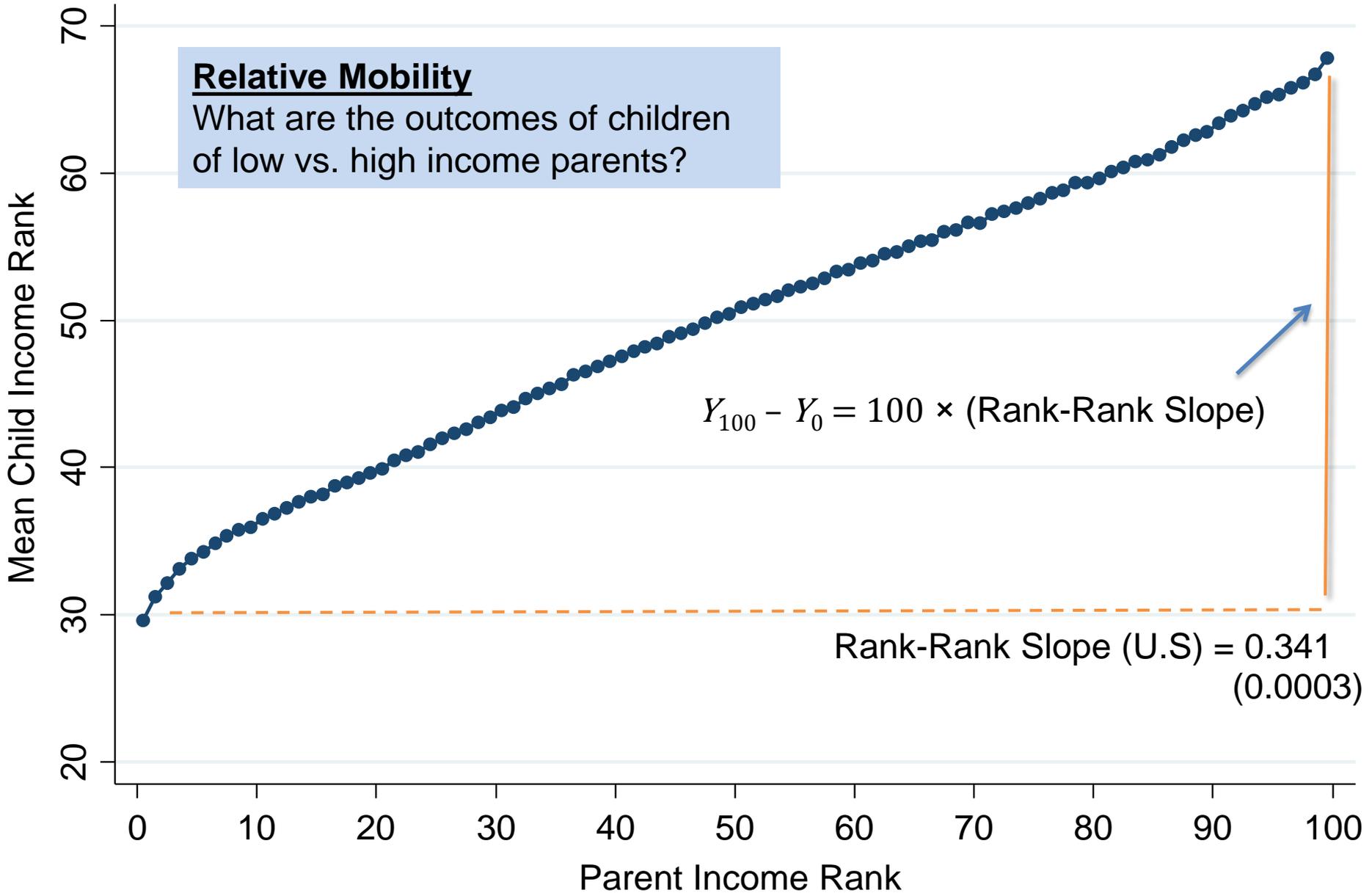
Statistical Model

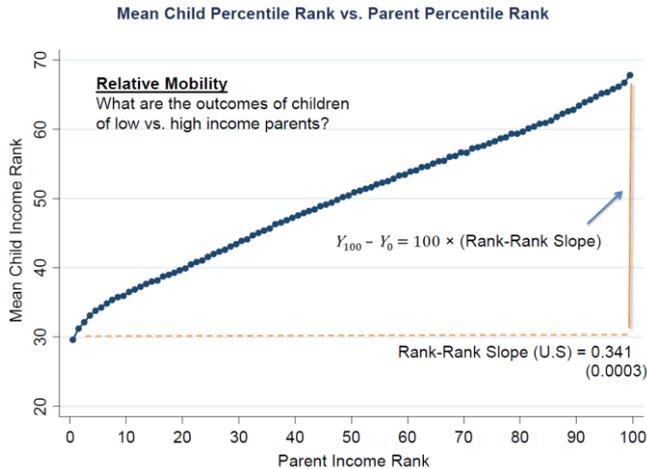
- Rank: they prefer ranks (to levels or logs since it helps deal with 0s and nonlinearity in long-log relationship)
- They take the parent's average real income and assign their rank in the national distribution
- They do the same for the child
- They present two main outcomes:
 - Relative: comparing child destination outcomes ACROSS parent distribution
 - Absolute: Looking at child destination outcomes

Mean Child Percentile Rank vs. Parent Percentile Rank

Relative Mobility

What are the outcomes of children of low vs. high income parents?

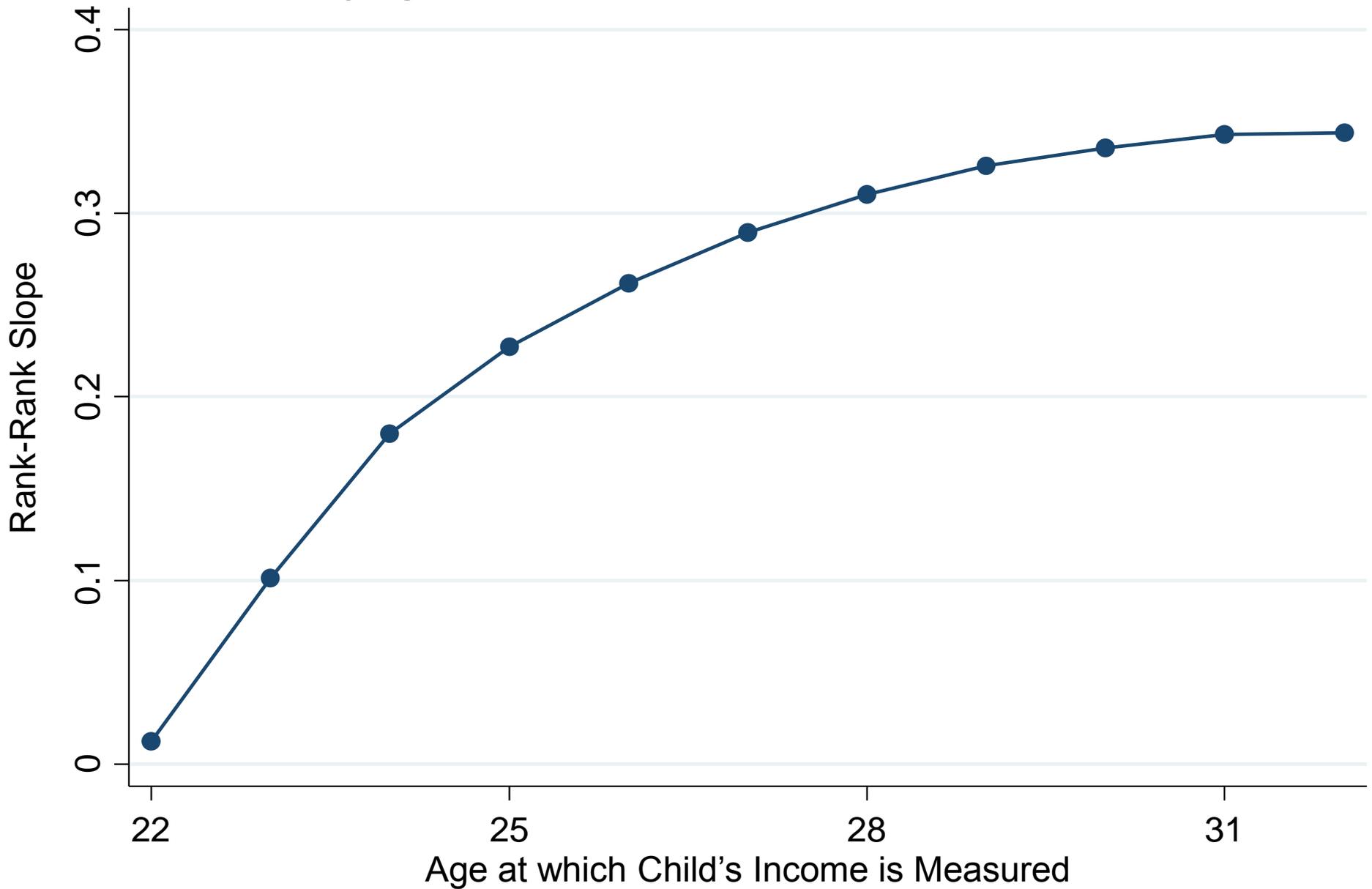




How do they do this?

- There is one observation for each child-parent pair
- Rank all parents observations and put into 100 bins, the 100 percentiles of the parent distribution
- Do the same for the children
- For each of the bins, calculate the mean of the child percentiles
- The slope of the graph represents how much better a child on average will do if the parent comes from a higher percentile
- Why is this “relative” mobility? It is comparing outcomes for children from low versus high income families

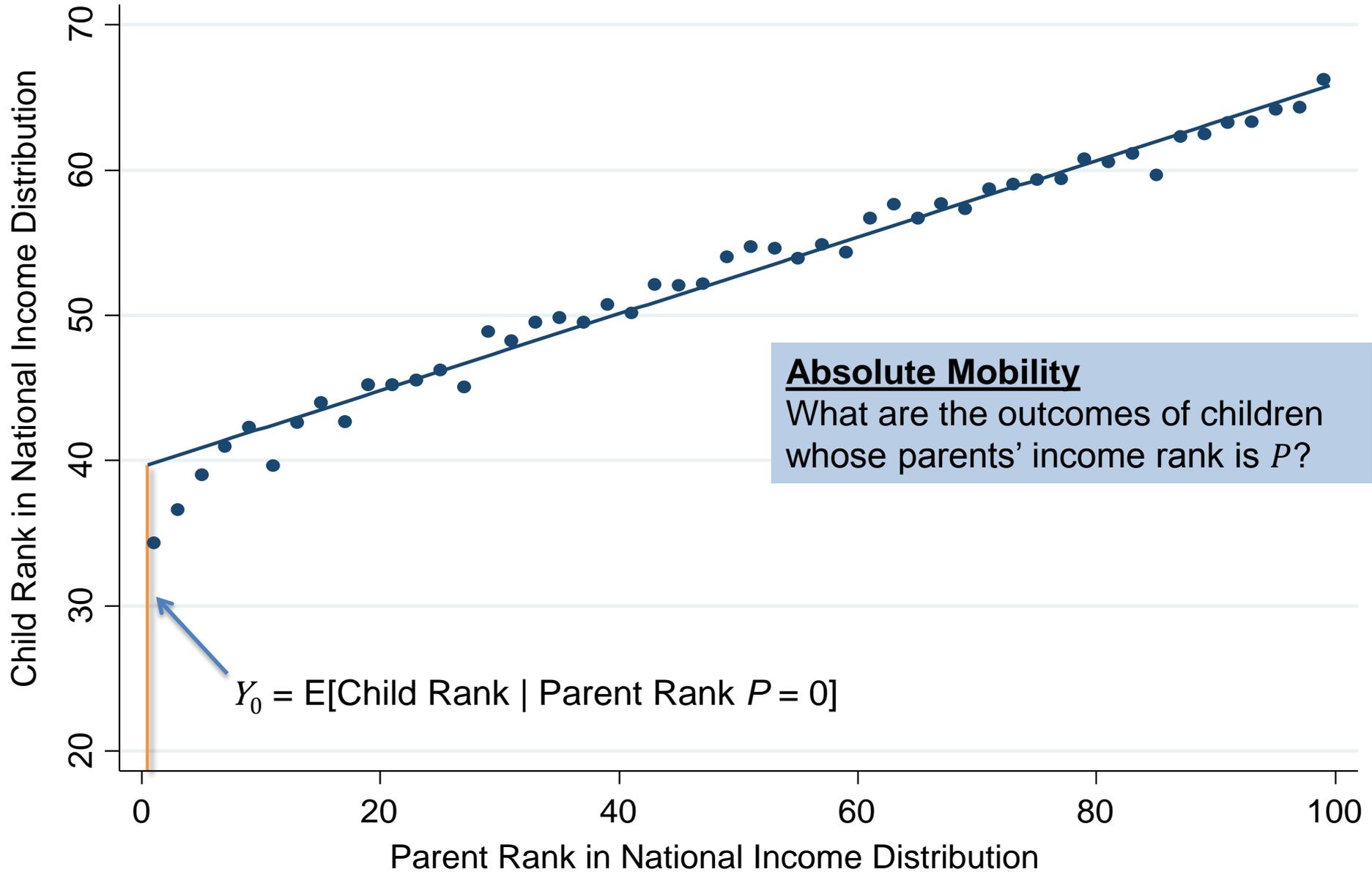
Lifecycle Bias: Intergenerational Income Correlation by Age at Which Child's Income is Measured



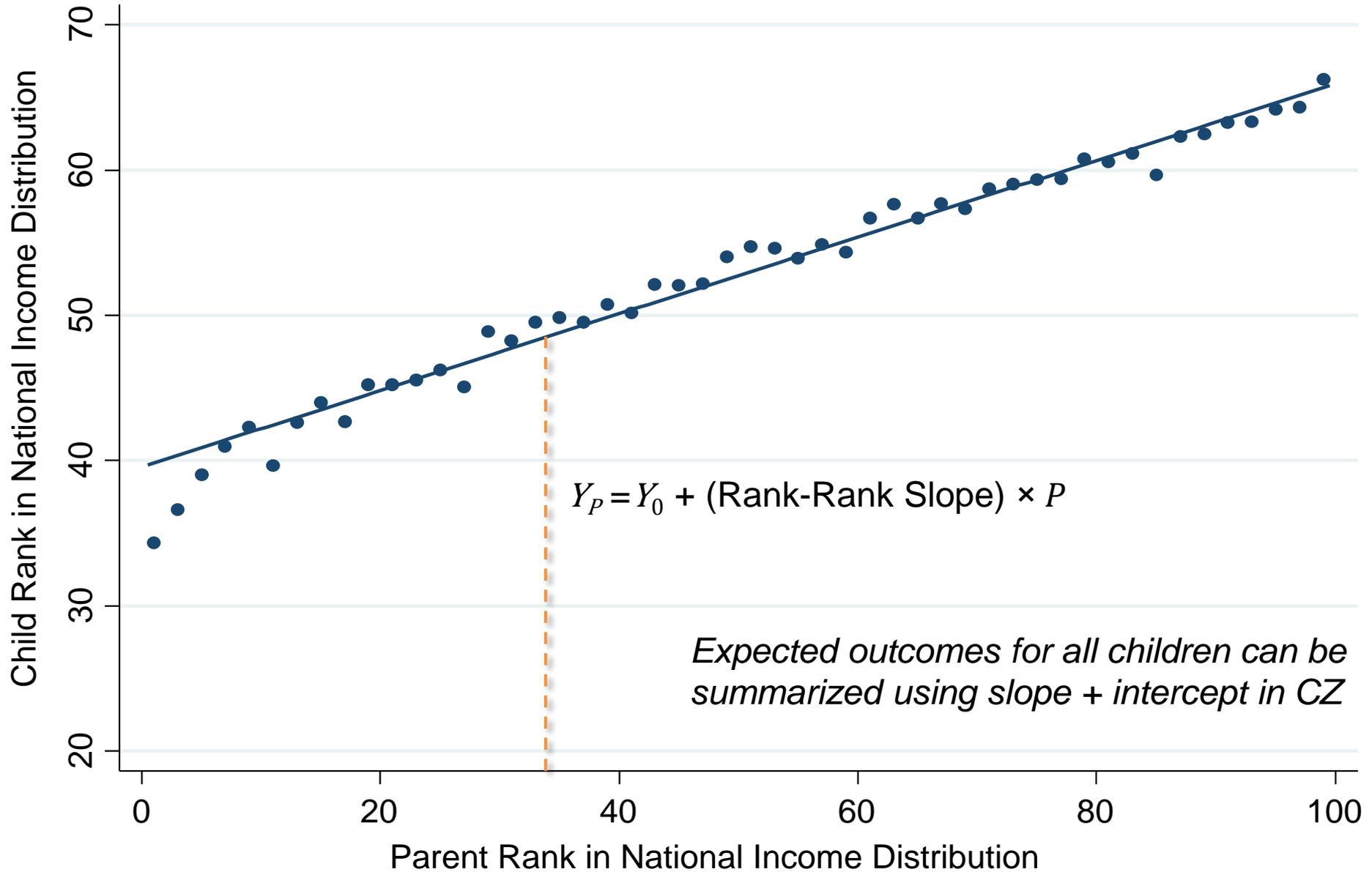
Absolute mobility

- Once you have the data set up this way (parent rank and child rank), you can also calculate measures of absolute mobility:
 - Mean outcome for child born to 25th percentile
 - The share of those in the bottom quintile (as children) that reach the top quintile (as adults)
 - Is income above poverty for child born at 25th percentile

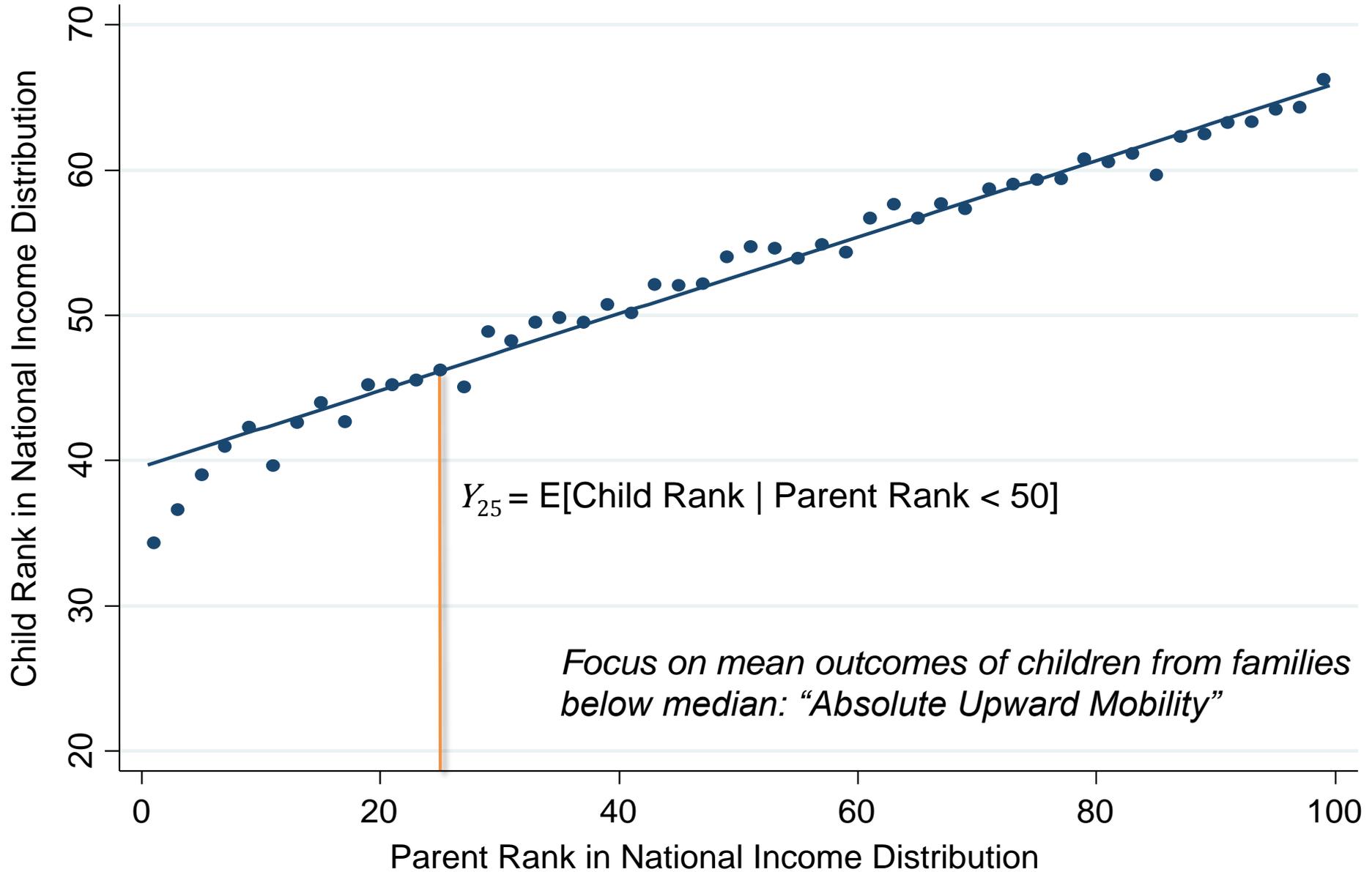
Intergenerational Mobility in Salt Lake City



Intergenerational Mobility in Salt Lake City



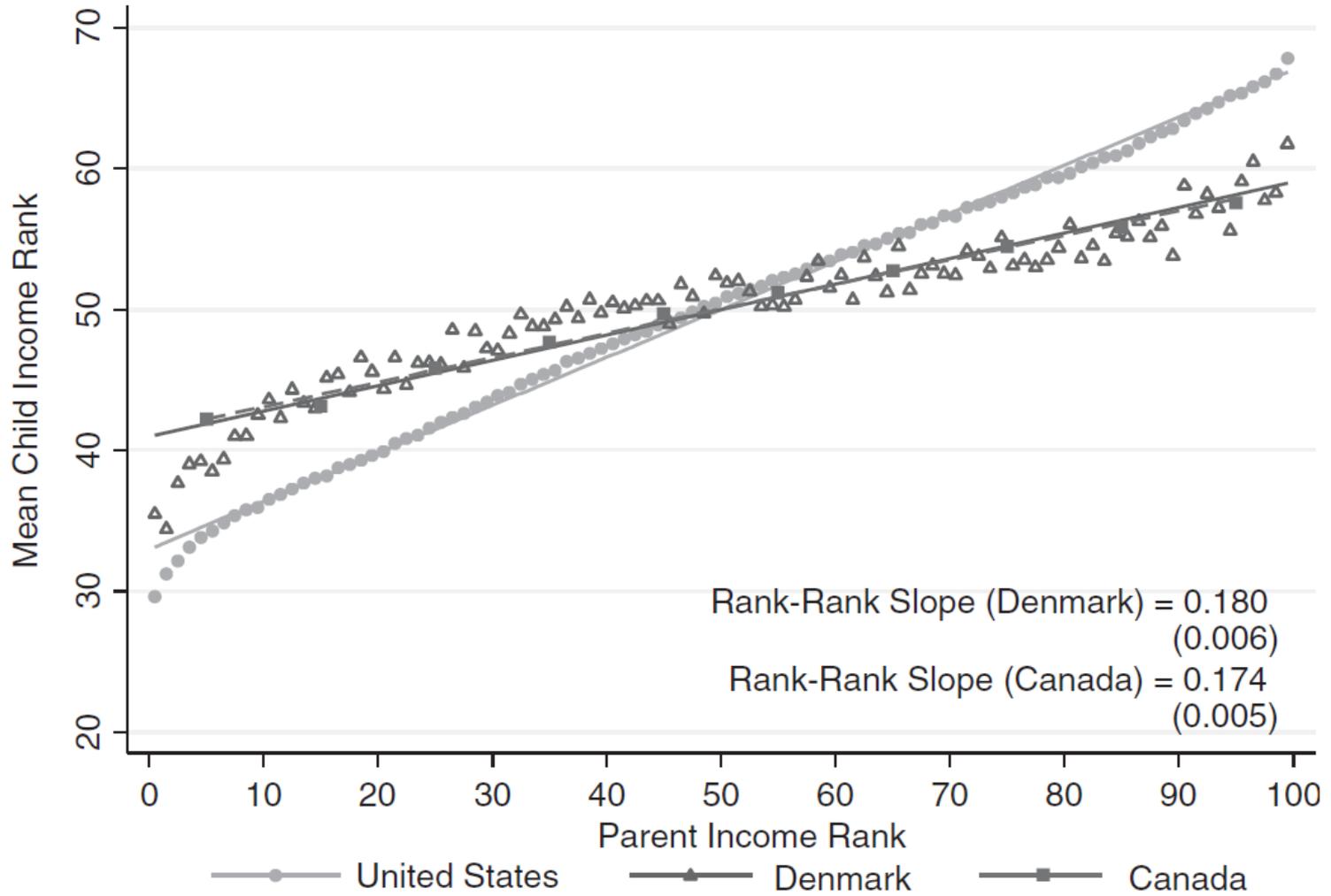
Intergenerational Mobility in Salt Lake City



How does US compare to other countries?

B

Cross-Country Comparisons

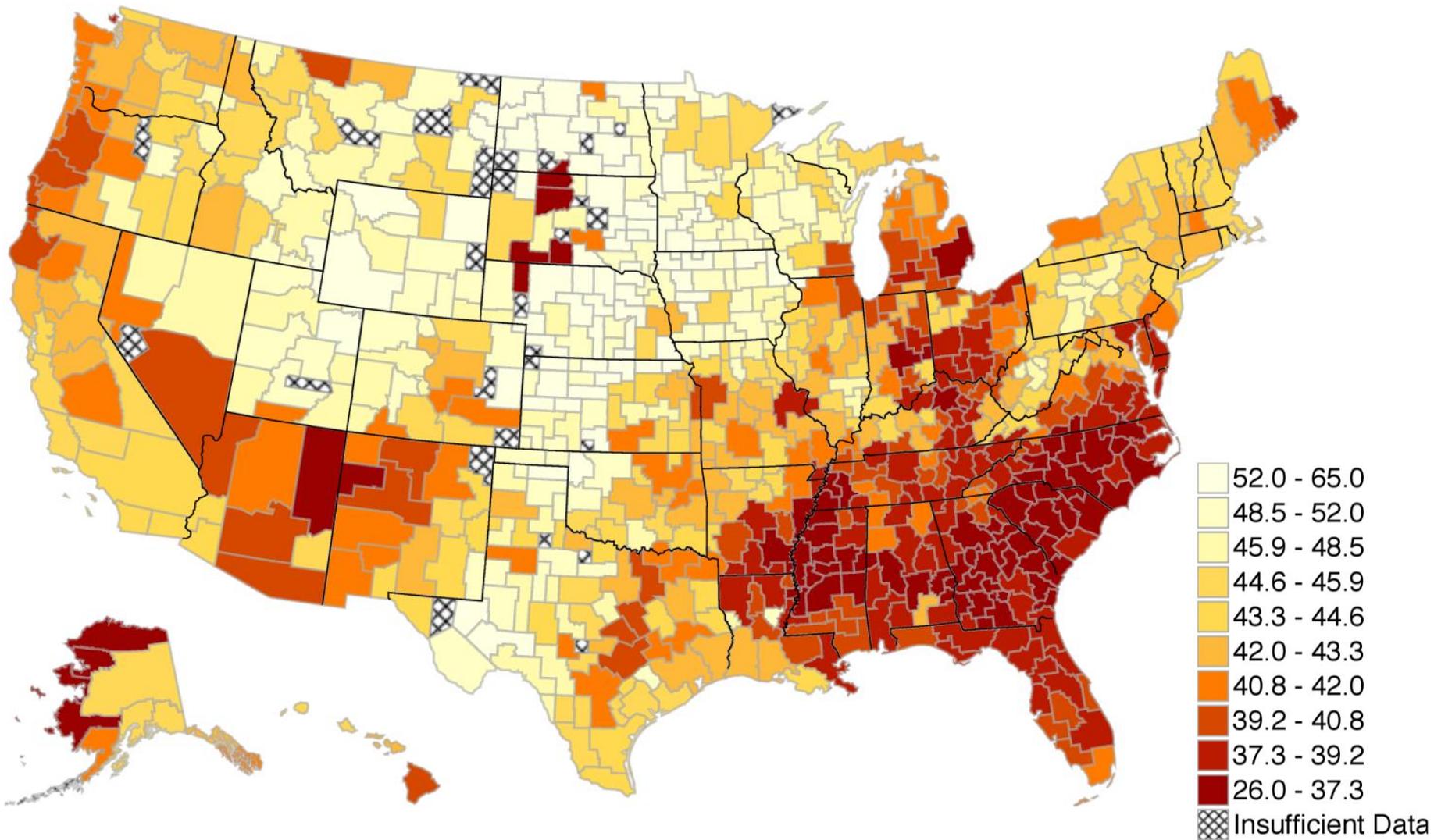


Geographic variation

- CZ: commuting zone; similar to metro areas but include rural areas as well, aggregations of counties based on commuting patterns
- In each CZ, regress child national rank on parent national rank in micro data:
 - $Rank_{\text{child}} = \alpha + \beta Rank_{\text{parent}}$
- Relative mobility = $100 \times \beta$
- Absolute upward mobility = $\alpha + 25 \times \beta$
- Because of the linear rank-rank specification, they can summarize each CZ's mobility with two parameters (slope, intercept).

The Geography of Upward Mobility in the United States

Mean Child Percentile Rank for Parents at 25th Percentile (Y_{25})



Note: Lighter Color = More Absolute Upward Mobility

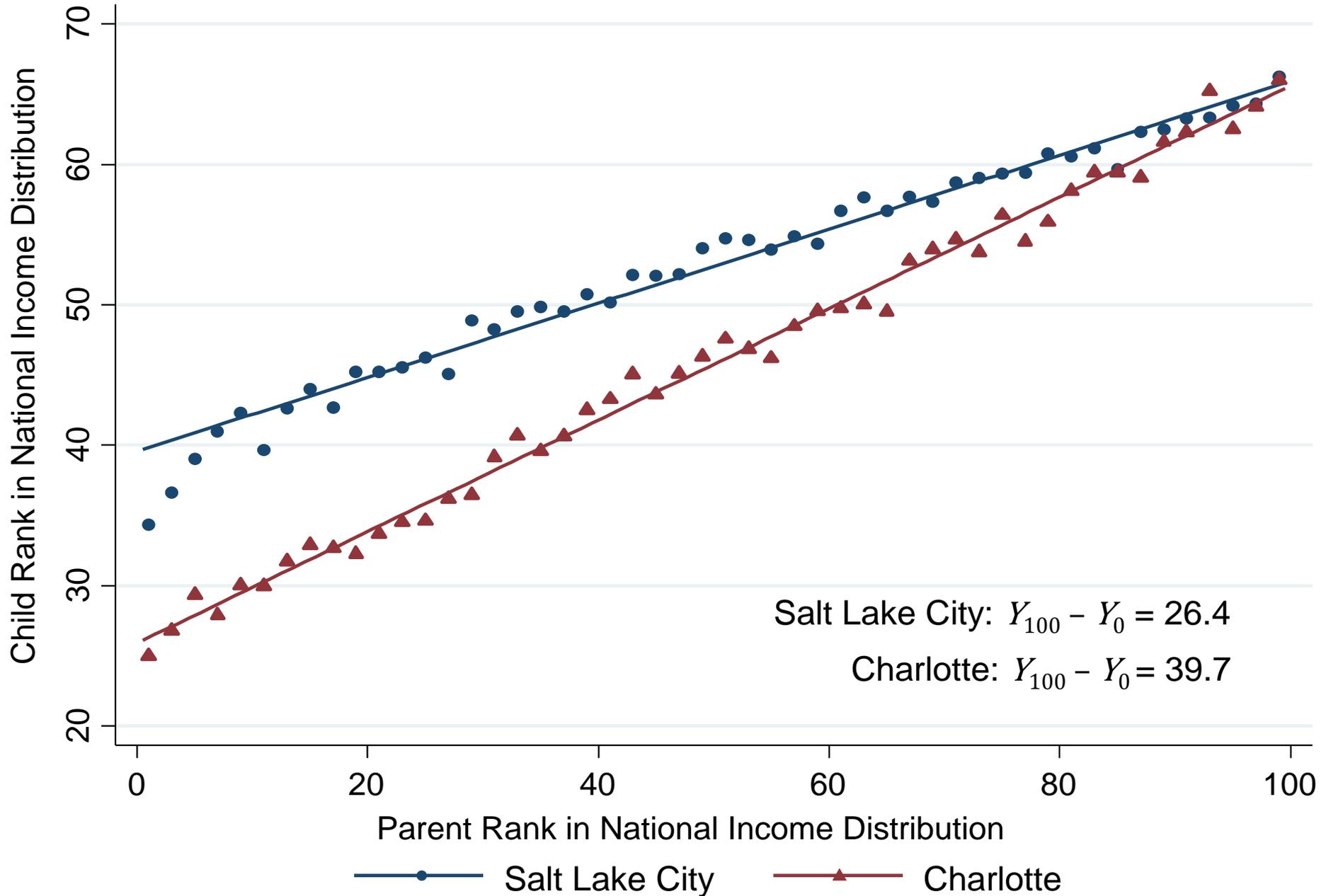
Highest Absolute Mobility In The 50 Largest CZs

Upward Mobility Rank	CZ Name	Y_{25}	$Y_{100} - Y_0$	P(Child in Q5 Parent in Q1)
1	Salt Lake City, UT	46.2	0.264	10.83%
2	Pittsburgh, PA	45.2	0.359	9.51%
3	San Jose, CA	44.7	0.235	12.93%
4	Boston, MA	44.6	0.322	10.49%
5	San Francisco, CA	44.4	0.250	12.15%
6	San Diego, CA	44.3	0.237	10.44%
7	Manchester, NH	44.2	0.296	10.02%
8	Minneapolis, MN	44.2	0.338	8.52%
9	Newark, NJ	44.1	0.350	10.24%
10	New York, NY	43.8	0.330	10.50%

Lowest Absolute Mobility In The 50 Largest CZs

Upward Mobility Rank	CZ Name	Y_{25}	$Y_{100} - Y_0$	P(Child in Q5 Parent in Q1)
41	Nashville, TN	38.2	0.357	5.73%
42	New Orleans, LA	38.2	0.397	5.12%
43	Cincinnati, OH	37.9	0.429	5.12%
44	Columbus, OH	37.7	0.406	4.91%
45	Jacksonville, FL	37.5	0.361	4.92%
46	Detroit, MI	37.3	0.358	5.46%
47	Indianapolis, IN	37.2	0.398	4.90%
48	Raleigh, NC	36.9	0.389	5.00%
49	Atlanta, GA	36.0	0.366	4.53%
50	Charlotte, NC	35.8	0.397	4.38%

Intergenerational Mobility in Salt Lake City vs. Charlotte



Data visualization

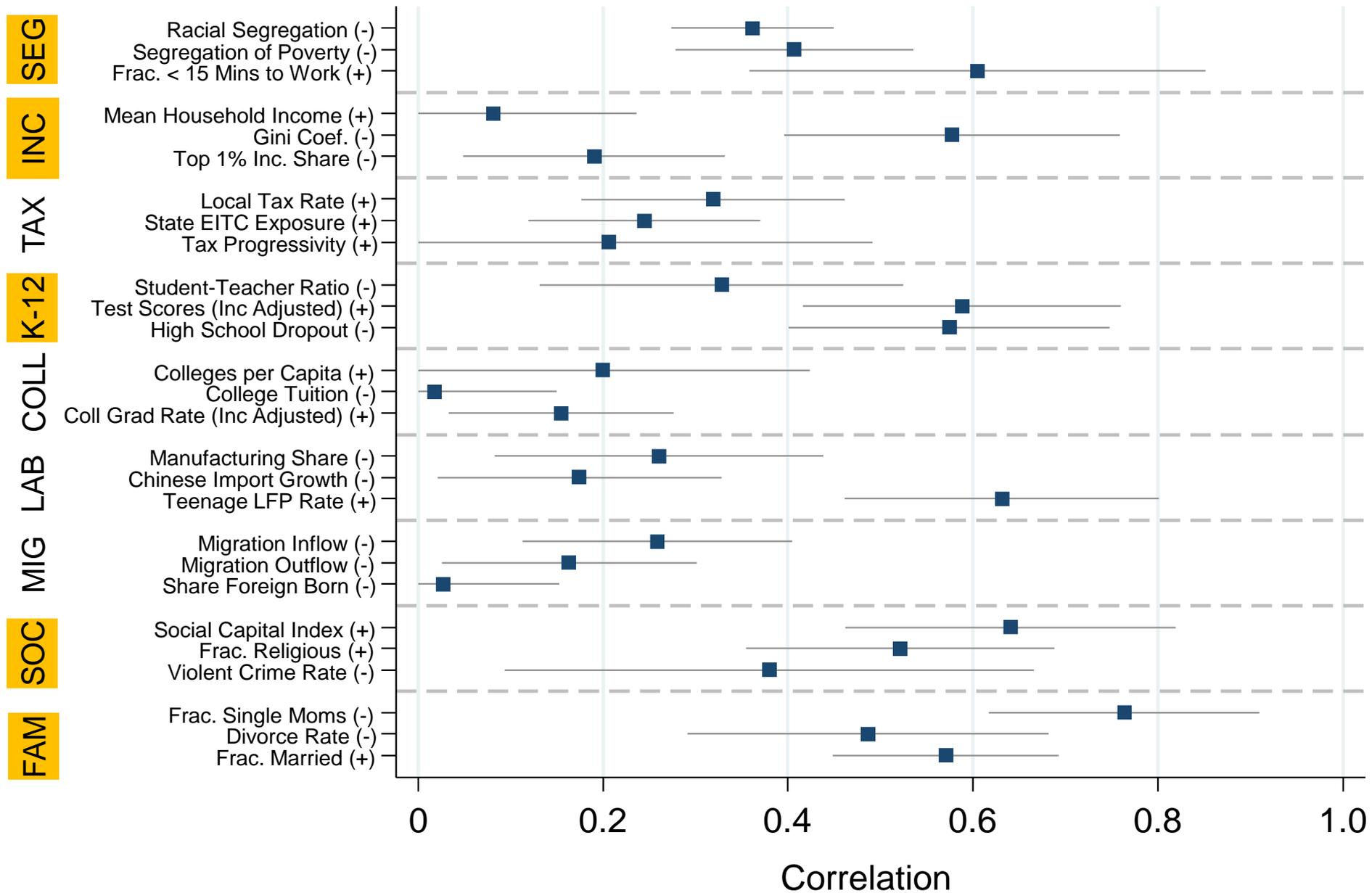
- <http://www.nytimes.com/2013/07/22/business/in-climbing-income-ladder-location-matters.html?pagewanted=all>

- Using the larger sample, they show that the same patterns are revealed with pre-labor market outcomes (college attendance, teen births)
- Suggests that factors have to do with childhood influences

Predictors of Geographic Differences

- Not necessarily causal, this is a descriptive exercise
- Univariate correlations of absolute mobility (by CZ) and various CZ characteristics
- They quantify factors that have been examined in the existing research

Spatial Correlates of Upward Mobility (absolute values)



THE GREAT GATSBY CURVE

High Inequality is Associated With Less Economic Mobility

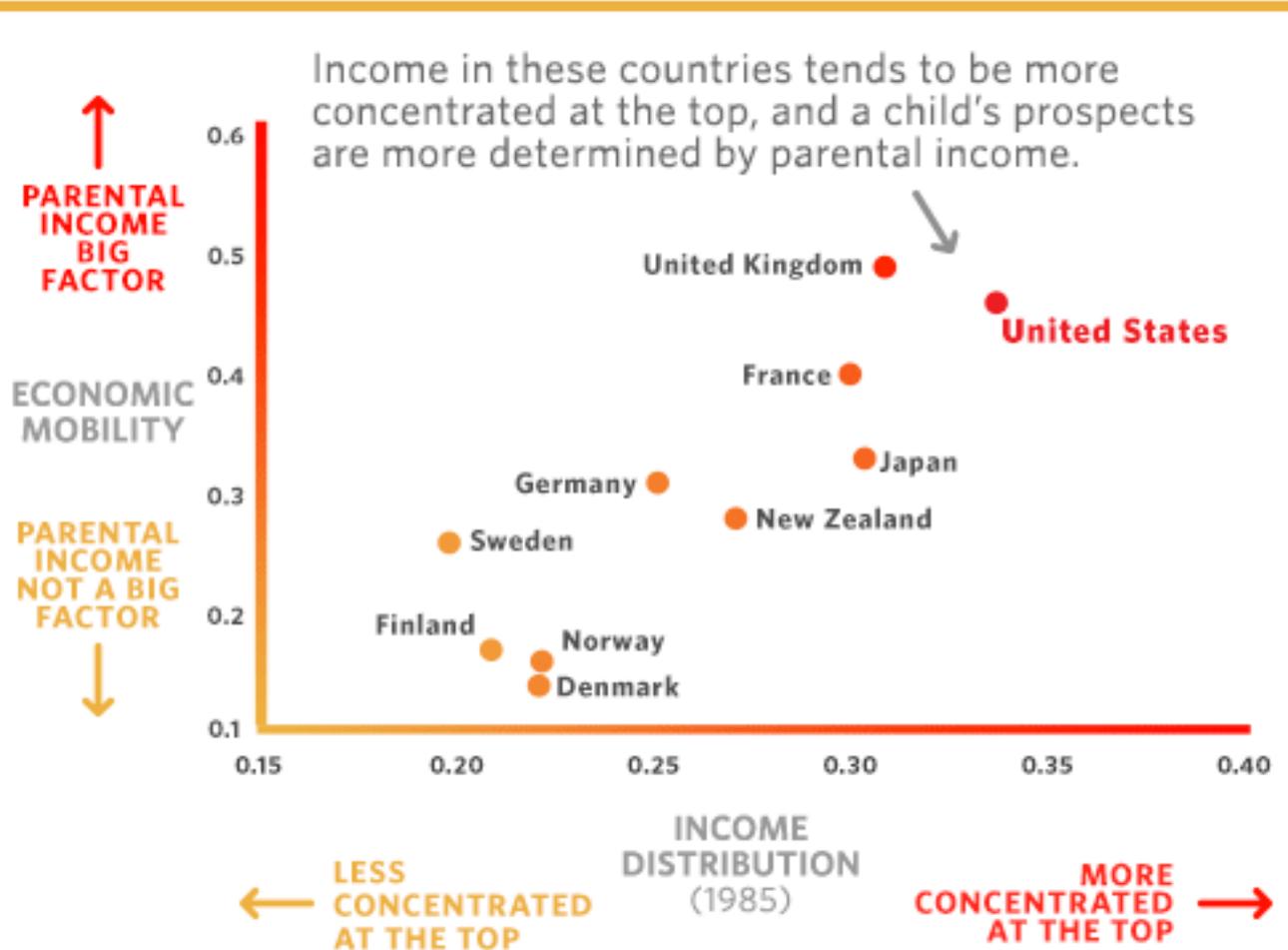


TABLE VI

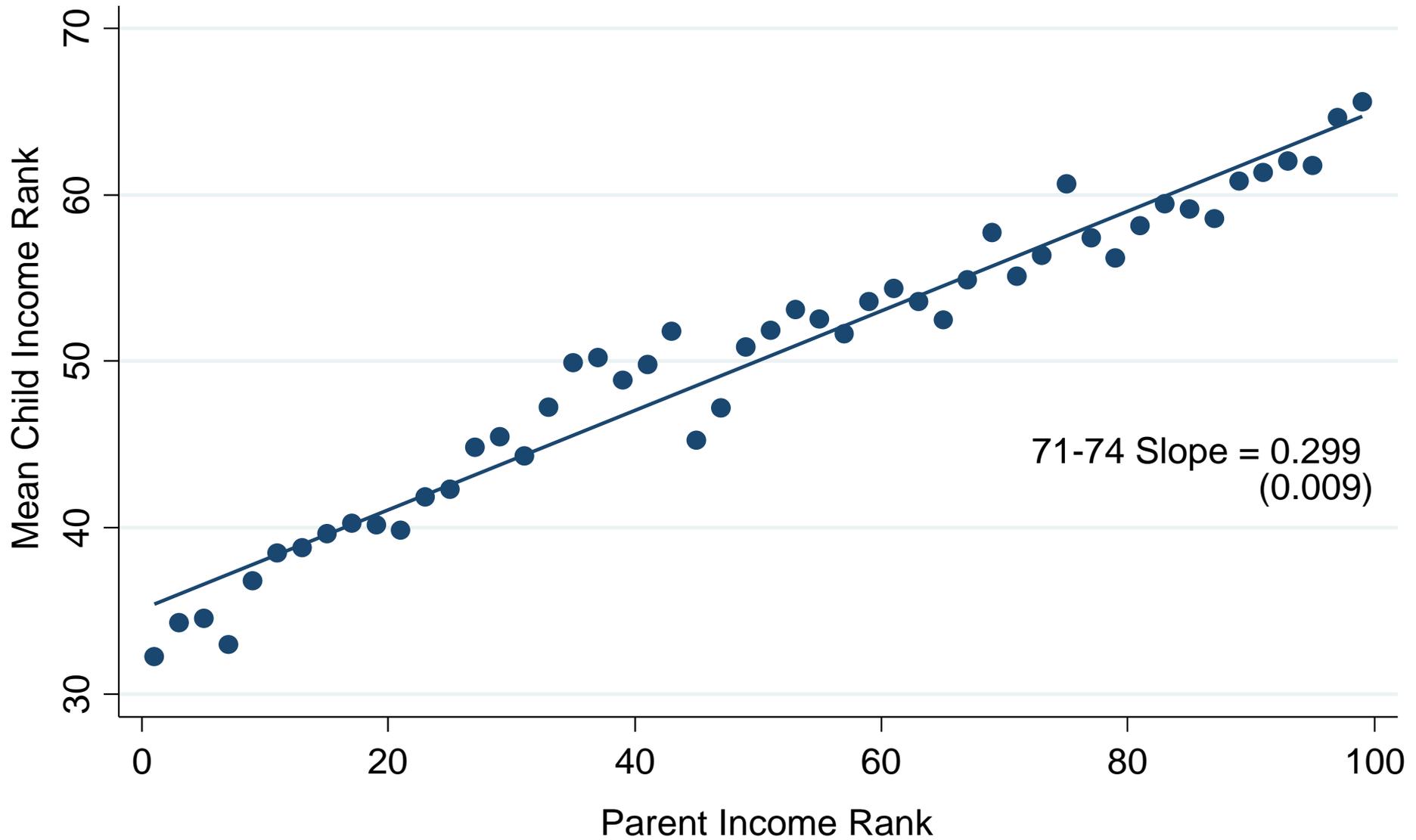
CORRELATES OF INTERGENERATIONAL MOBILITY: COMPARING ALTERNATIVE HYPOTHESES

Dep. var.:	Absolute upward mobility			Relative mobility		Absolute upward mobility		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Fraction short commute	0.302 (0.065)	0.227 (0.077)	0.314 (0.052)	-0.290 (0.061)	-0.325 (0.064)	0.331 (0.070)		0.319 (0.065)
Gini bottom 99%	-0.009 (0.053)	-0.017 (0.043)	0.060 (0.097)	0.006 (0.071)	0.343 (0.095)	-0.287 (0.059)		-0.021 (0.054)
High school dropout rate	-0.147 (0.055)	-0.120 (0.038)	-0.109 (0.085)	0.010 (0.064)	0.181 (0.056)	-0.288 (0.059)		-0.140 (0.055)
Social capital index	0.169 (0.047)	0.065 (0.050)	0.173 (0.060)	0.154 (0.060)	0.154 (0.070)	0.168 (0.059)		0.168 (0.045)
Fraction single mothers	-0.487 (0.062)	-0.477 (0.071)	-0.555 (0.089)	0.591 (0.049)			-0.808 (0.085)	-0.579 (0.061)
Fraction black							0.056 (0.073)	0.132 (0.051)
State fixed effects		x						
Urban areas only			x					
<i>R</i> -squared	0.757	0.859	0.671	0.48	0.324	0.651	0.584	0.763
Observations	709	709	325	709	709	709	709	709

Trend in intergenerational mobility

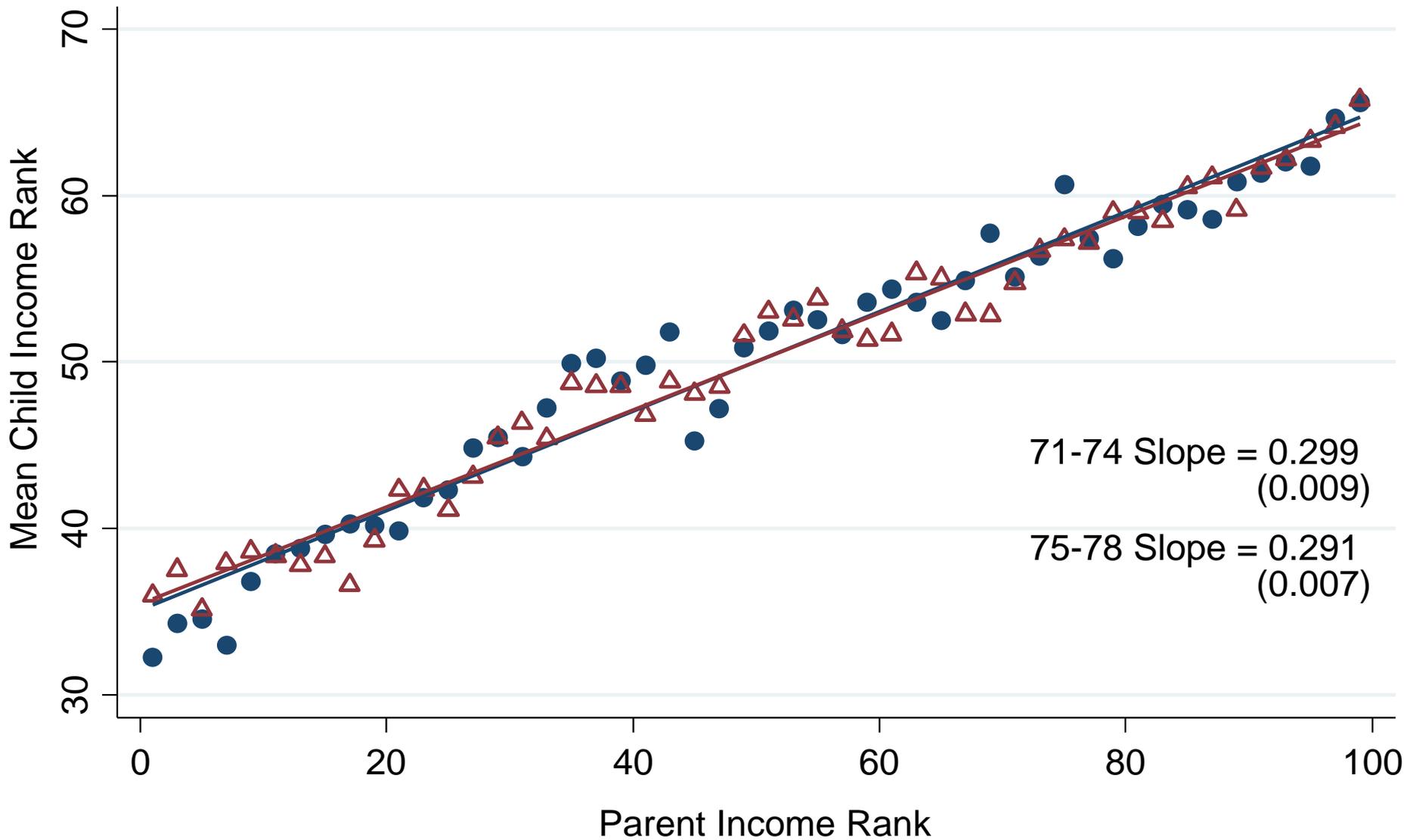
- They supplement their population data (for 1996+) with SOI samples to get earlier birth cohorts (longer trends)

Child Income Rank vs. Parent Income Rank by Birth Cohort



—●— 1971-74

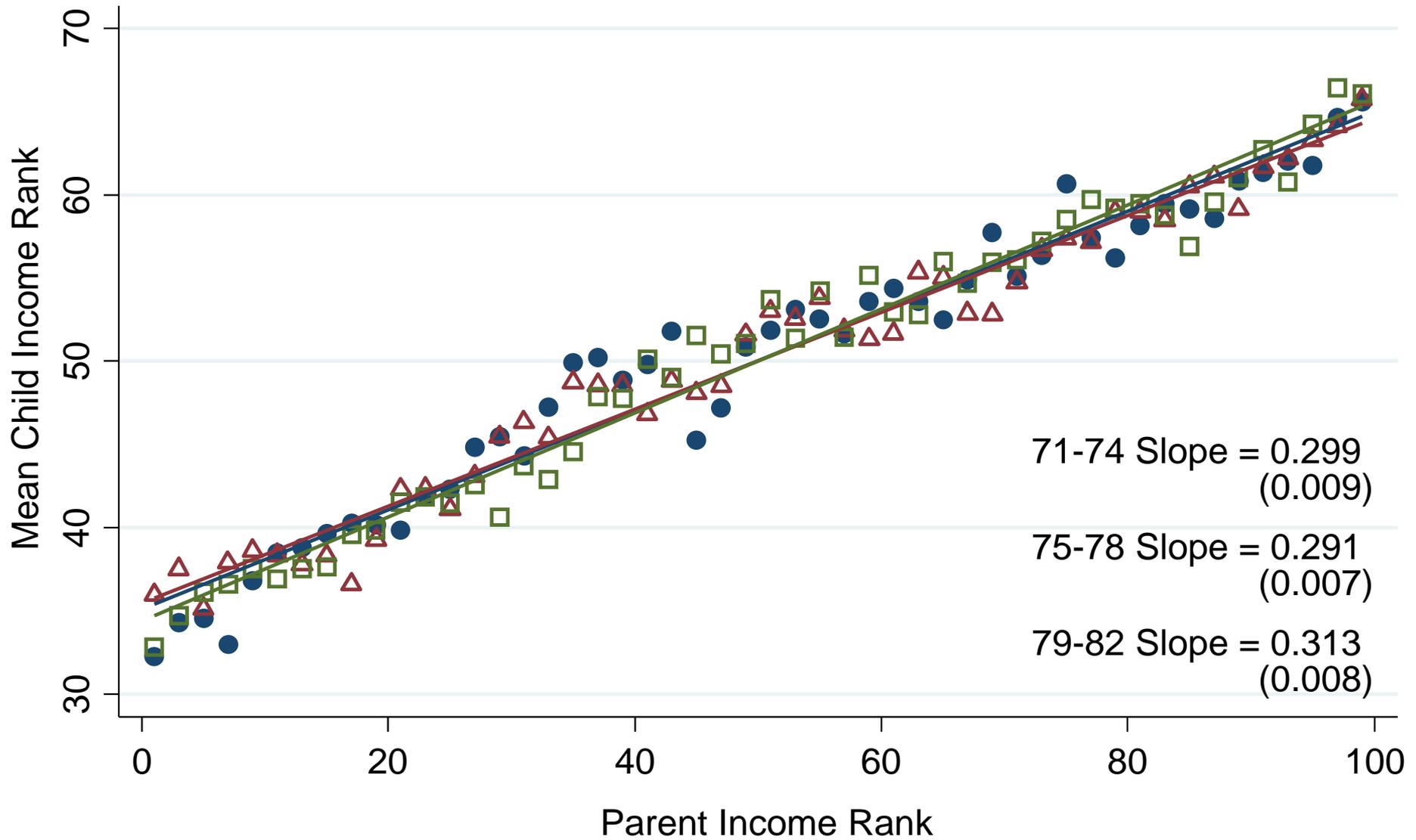
Child Income Rank vs. Parent Income Rank by Birth Cohort



● 1971-74

▲ 1975-78

Child Income Rank vs. Parent Income Rank by Birth Cohort

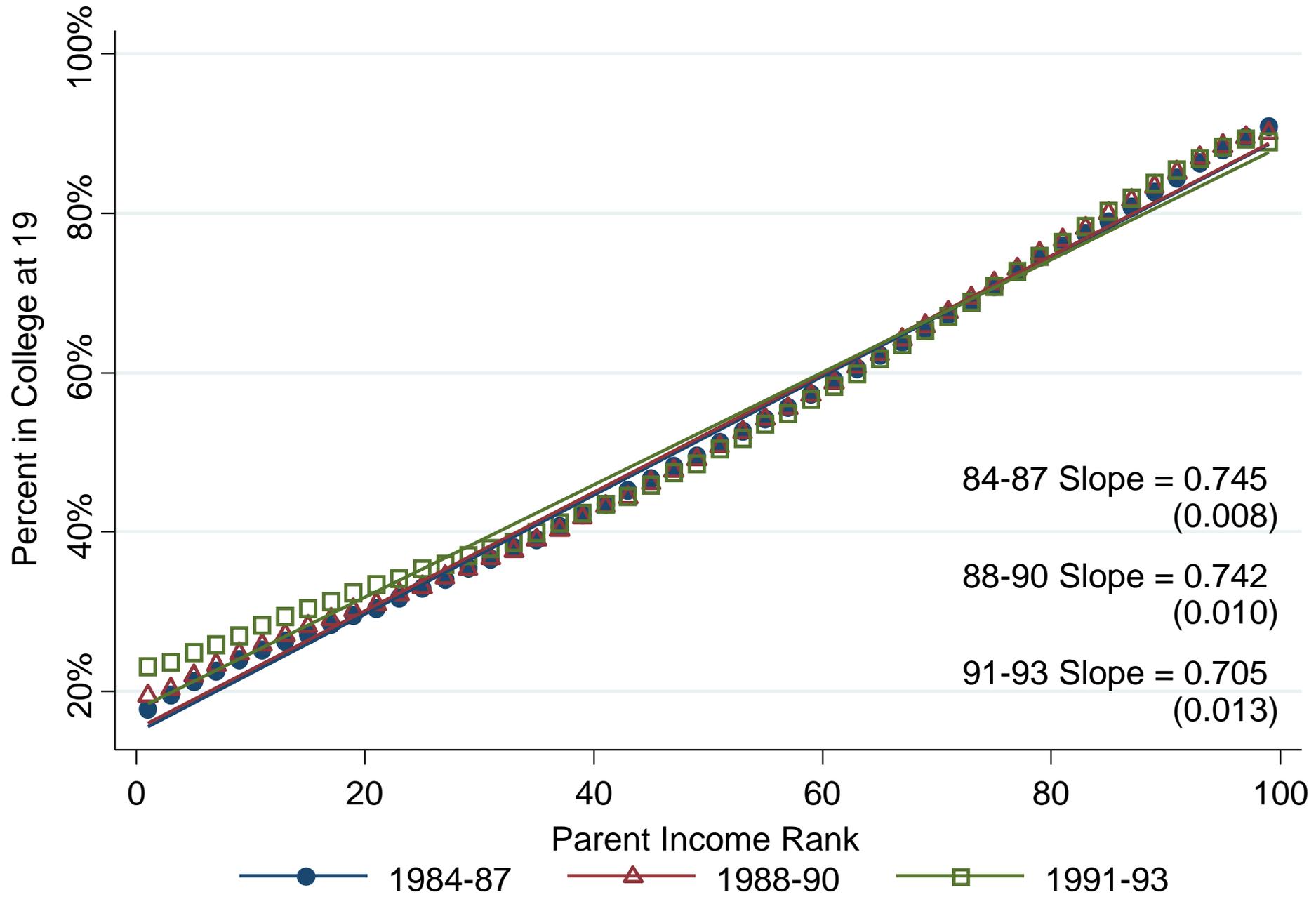


● 1971-74

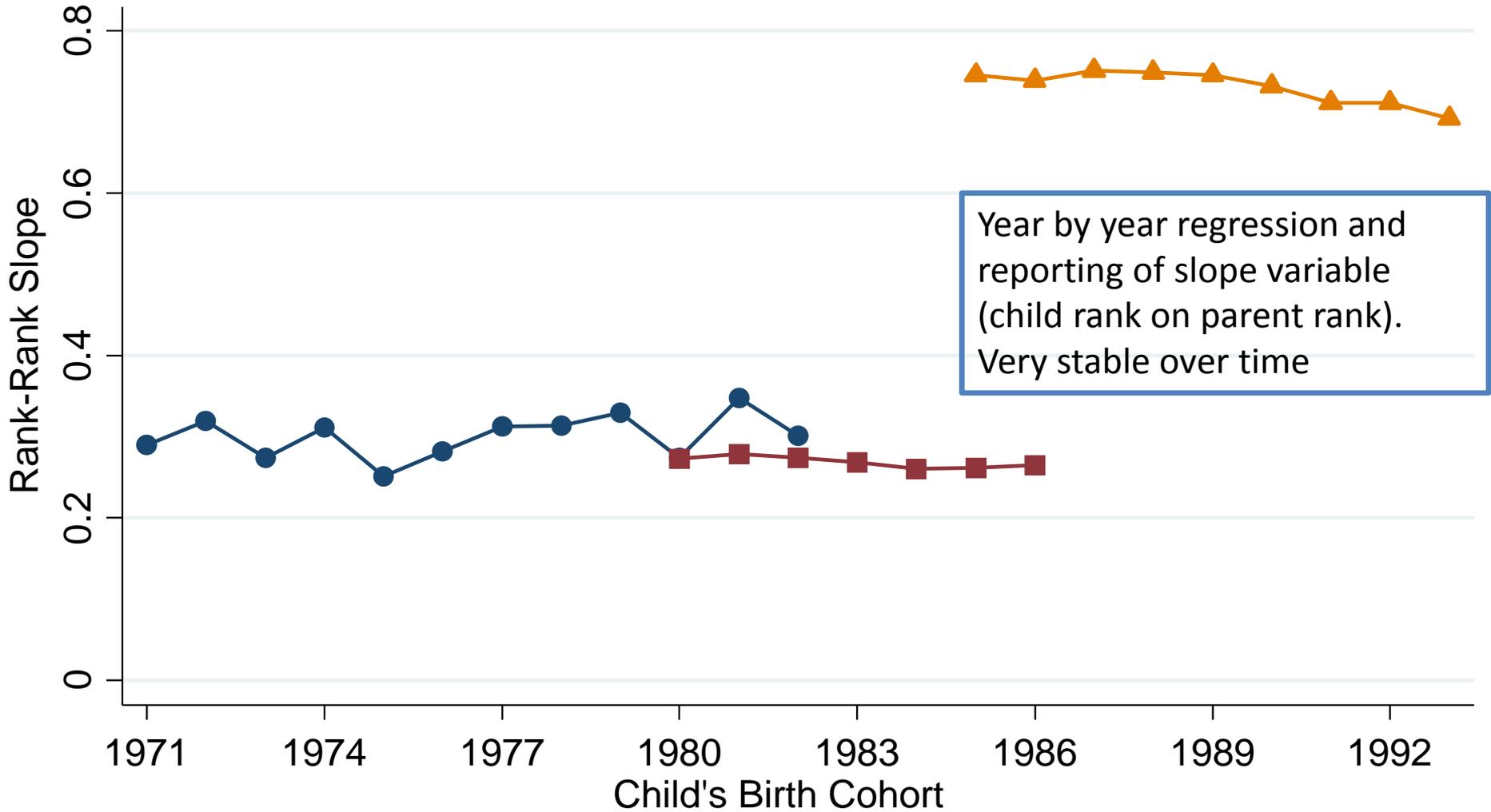
▲ 1975-78

◻ 1979-82

College Attendance Rates vs. Parent Income Rank by Cohort

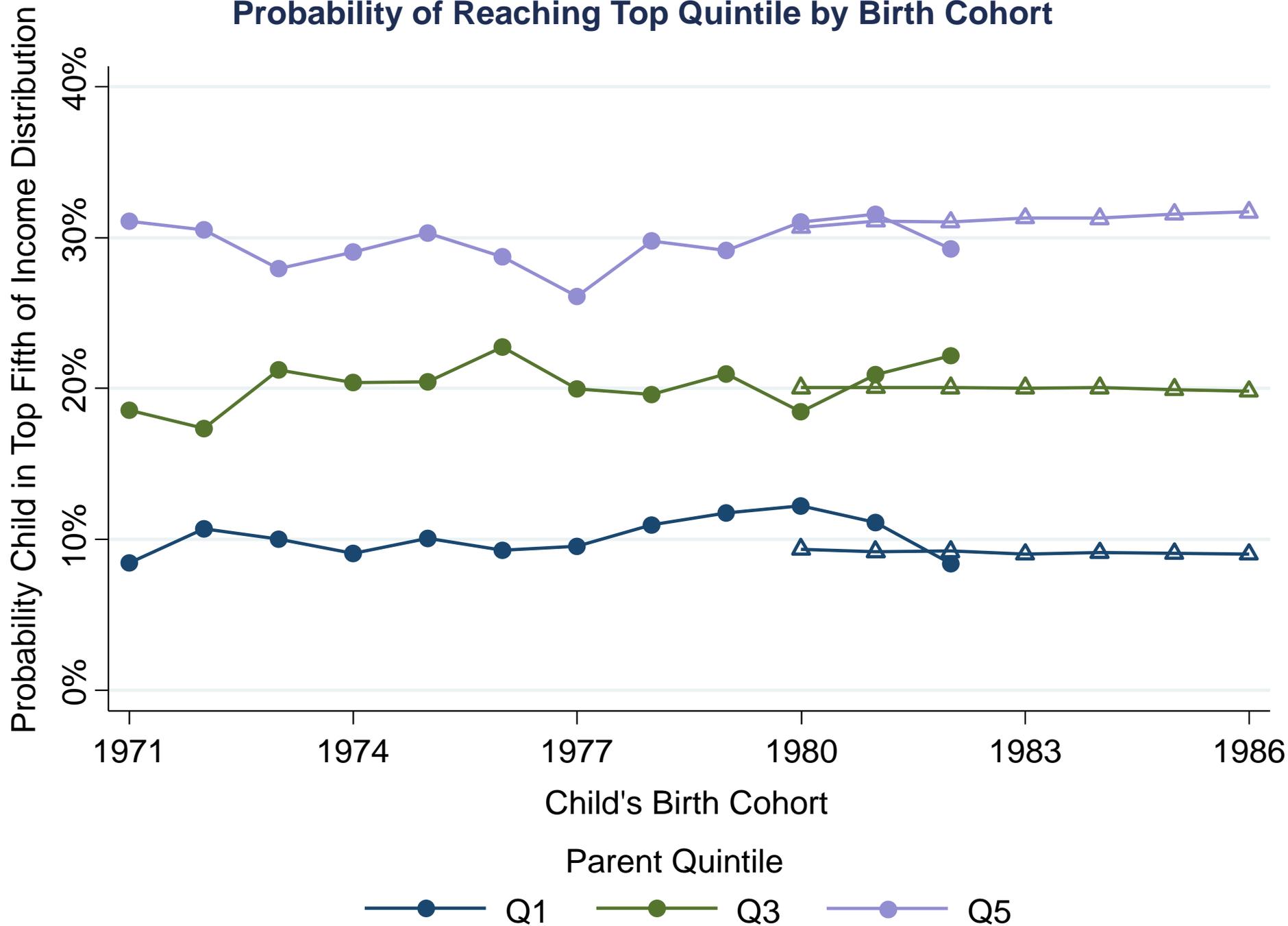


Intergenerational Mobility Estimates for the 1971-1993 Birth Cohorts

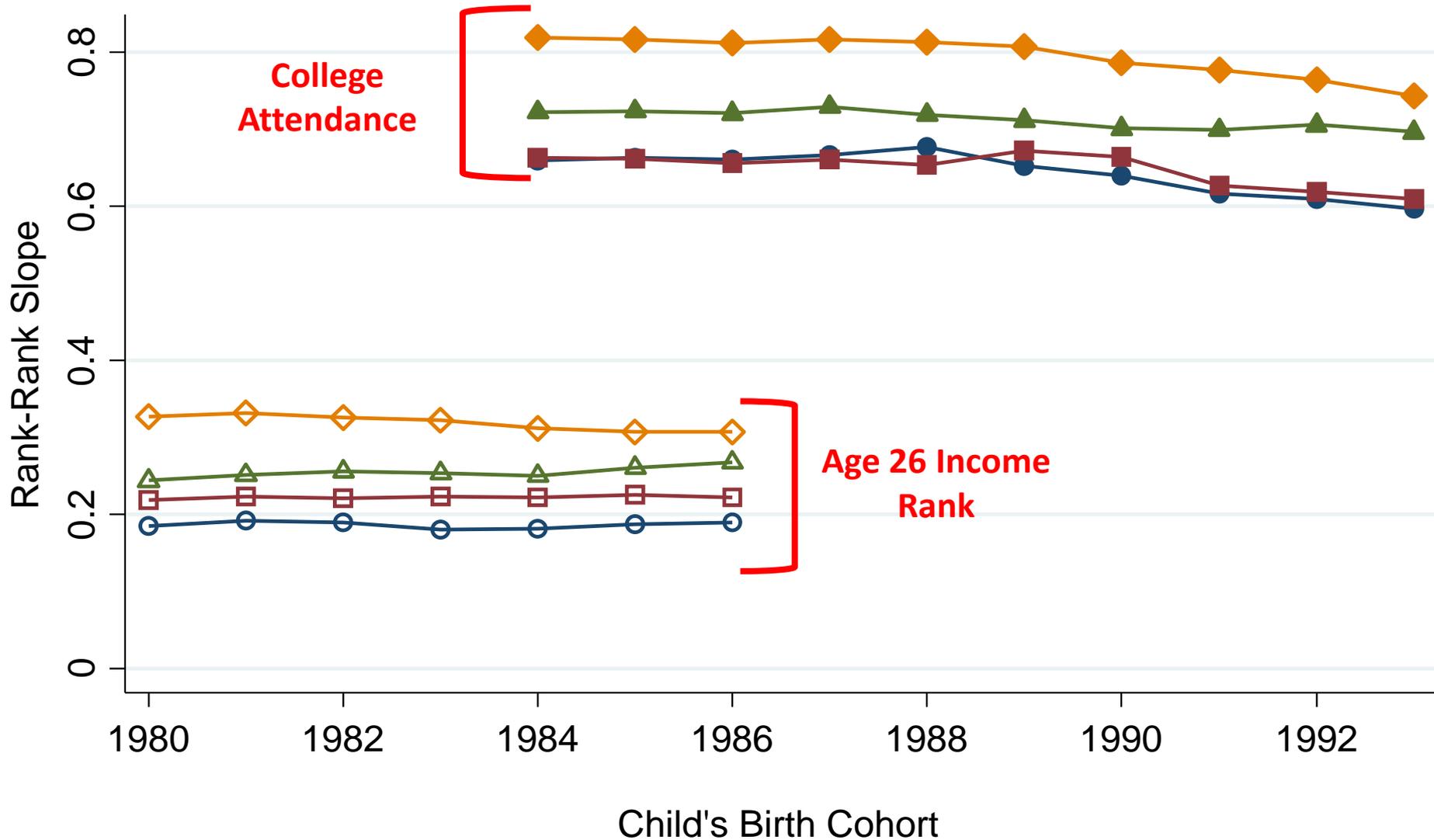


- Income Rank-Rank (Child Age 30; SOI Sample)
- Income Rank-Rank (Child Age 26; Pop. Sample)
- College-Income Gradient (Child Age 19; Pop. Sample)

Probability of Reaching Top Quintile by Birth Cohort



Intergenerational Mobility Estimates by Parent's Census Division

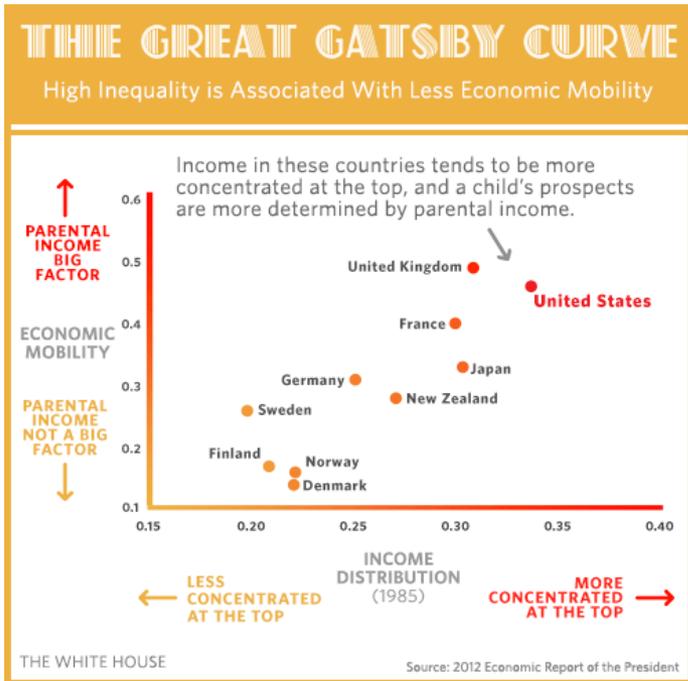


- Pacific
- Mountain
- ▲ New England
- ◆ East South Central

Why has intergenerational mobility not changed?

- With rising inequality we might have expected that mobility would have declined

← Negative correlation between mobility and inequality in cross-section [Corak 2013]



Given the Great Gatsby curve we would think that as the U.S. has become more unequal, economic mobility would have gone down.

But it hasn't.

- This may be because the inequality estimates (top 1%) is where all of the action has been but that is less predictive of mobility.
- The ladder metaphor:
 - Although these rank-based measures of mobility have remained stable, income inequality increased over time in our sample, consistent with prior work. Hence, the consequences of the “birth lottery”—the parents to whom a child is born—are larger today than in the past. A useful visual analogy is to envision the income distribution as a ladder, with each percentile representing a different rung. The rungs of the ladder have grown further apart (inequality has increased), but children’s chances of climbing from lower to higher rungs have not changed (rank-based mobility has remained stable).

Download CZ-Level Data on Social Mobility

www.equality-of-opportunity.org/data

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Downloadable Data on Intergenerational Mobility

Data Description		
Preferred Mobility Measures by Commuting Zone	Stata file	Excel file
Online Data Table 1: National 100 by 100 Transition Matrix	Stata file	Excel file
Online Data Table 2: Marginal Income Distributions by Centile	Stata file	Excel file
Online Data Table 3: Intergenerational Mobility Statistics and Selected Covariates by County	Stata file	Excel file
Online Data Table 4: Intergenerational Mobility Statistics by Metropolitan Statistical Area	Stata file	Excel file
Online Data Table 5: Intergenerational Mobility Statistics by Commuting Zone	Stata file	Excel file
Online Data Table 6: Quintile-Quintile Transition Matrices by Commuting Zone	Stata file	Excel file
Online Data Table 7: Income Distributions by Commuting Zone	Stata file	Excel file
Online Data Table 8: Commuting Zone Characteristics	Stata file	Excel file
Online Data Table 9: Commuting Zone Characteristics Definitions and Data Sources		Excel file
Geographic Crosswalks (Tolbert and Sizer 1996, Autor and Dorn 2009 & 2013)	Zip file	
Replication Stata Code and Datasets	Zip file	
Downloadable Map of Absolute Upward Mobility		

Version 2.0, released January 17, 2014. For Version 1.0 (released on July 22, 2013), click [here](#). Version 2.0 reports statistics using the 1980-82 birth cohorts (rather than 1980-81) and includes new data such as mobility statistics by county and MSA, new CZ-level covariates, and marginal income distributions for parents and children.

For more information on the data, please email info@equality-of-opportunity.org

Causes of Poverty and Inequality: Labor Market and Demographic Factors

Hilary Hoynes

PP290

Outline of lecture

1. Facts: trends in earnings and wages
2. Understanding the forces leading to trends in wages and earnings
3. Facts: trends in marriage
4. Understanding the forces leading to trends in marriage and family structure
5. Decomposing trends in poverty (demographics versus other factors)

1. Back to trends – facts on the labor market and earnings

- Post WWII → early 1970s:
 - gains in earnings occurred across the distribution; “growing together”
 - Growth in educational attainment
- Mid 1970s → present:
 - widening wage structure
 - Rate of education growth slowed
- The growth of real wages and the distribution among workers is a crucial factor for determining trends in poverty.

Broadly Shared Prosperity Ended in the Early 1970s, and a Generation of Widening Inequality Began

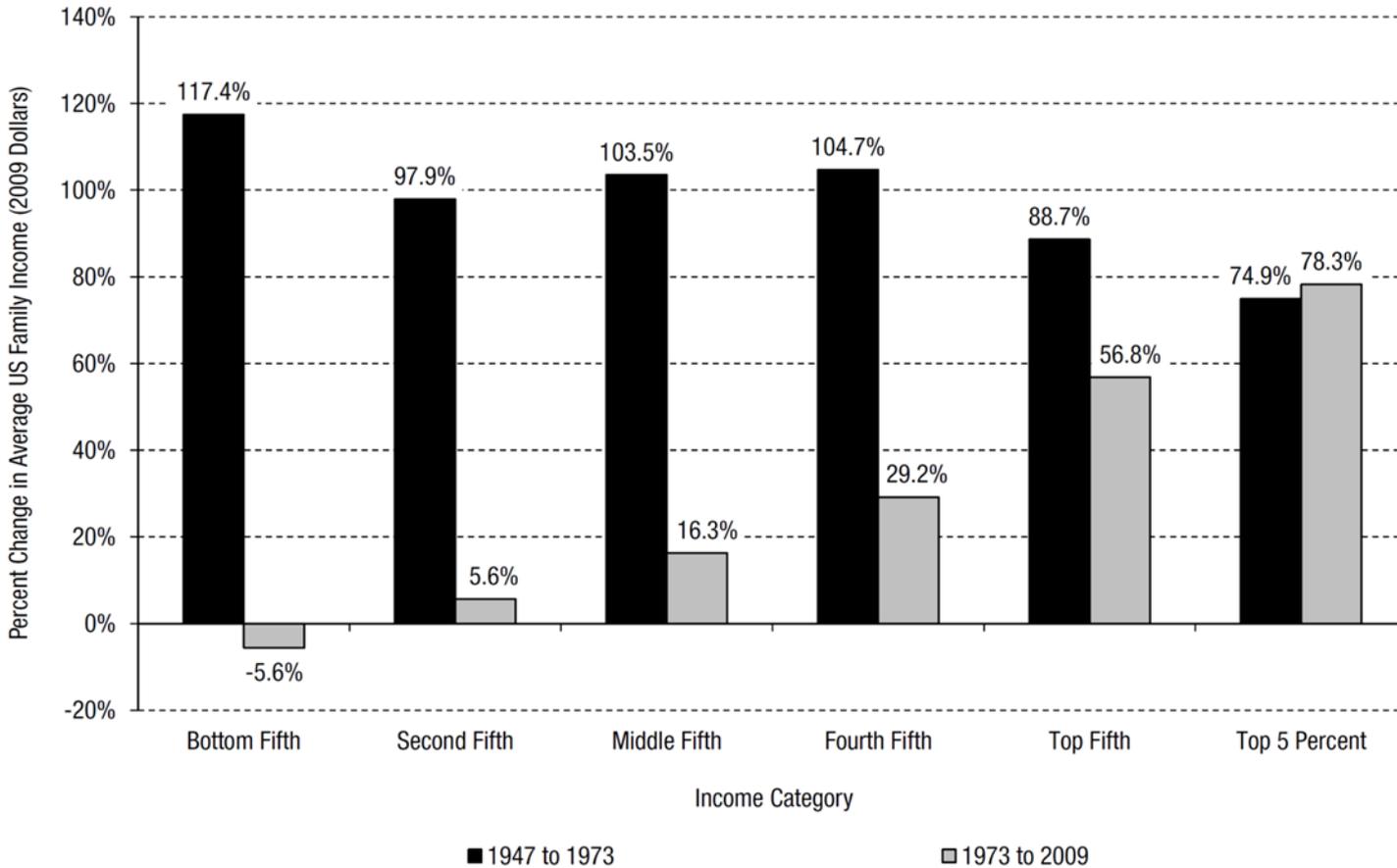


Figure 6-2
Average Real Household Income by Quintile, 1967–2012

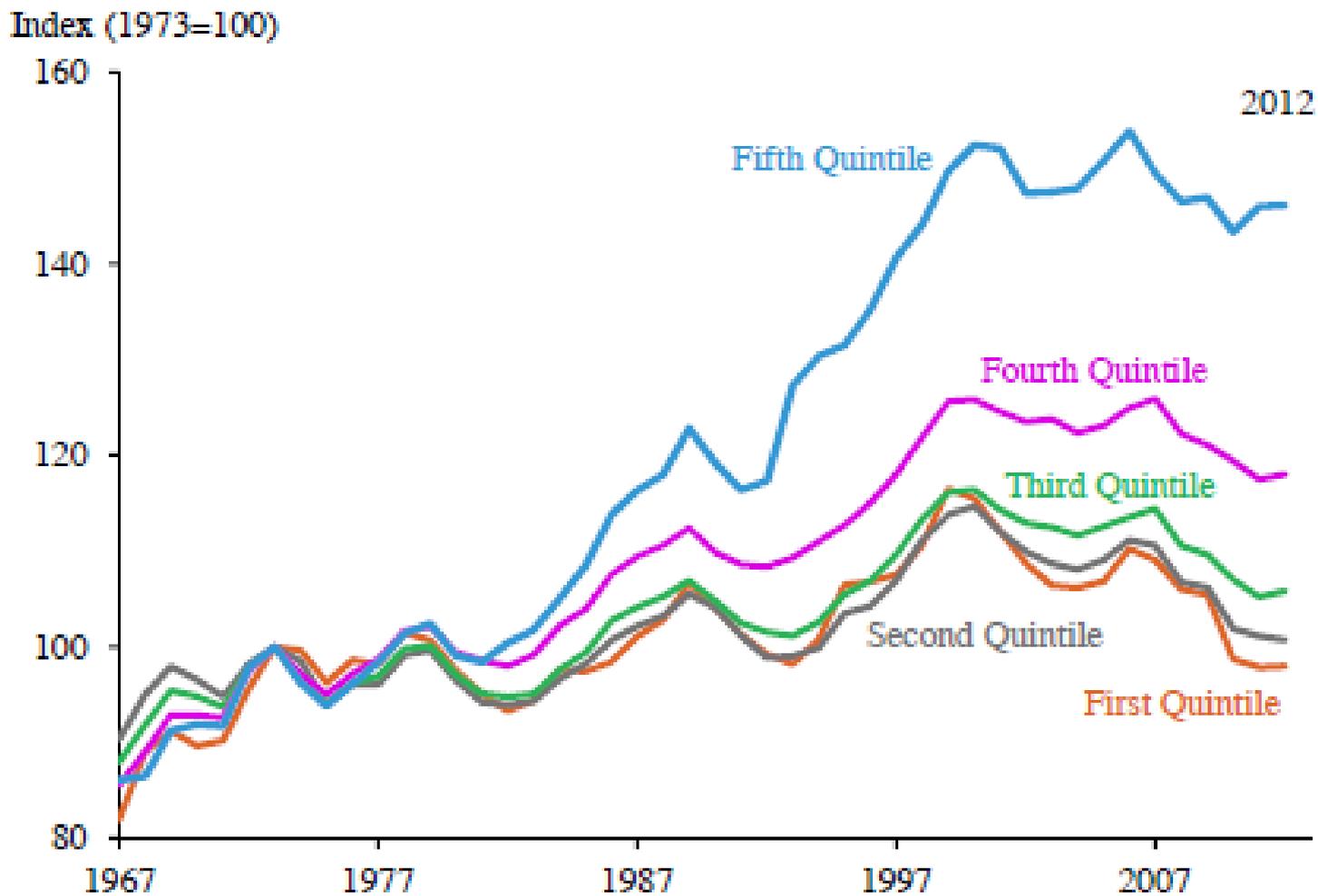
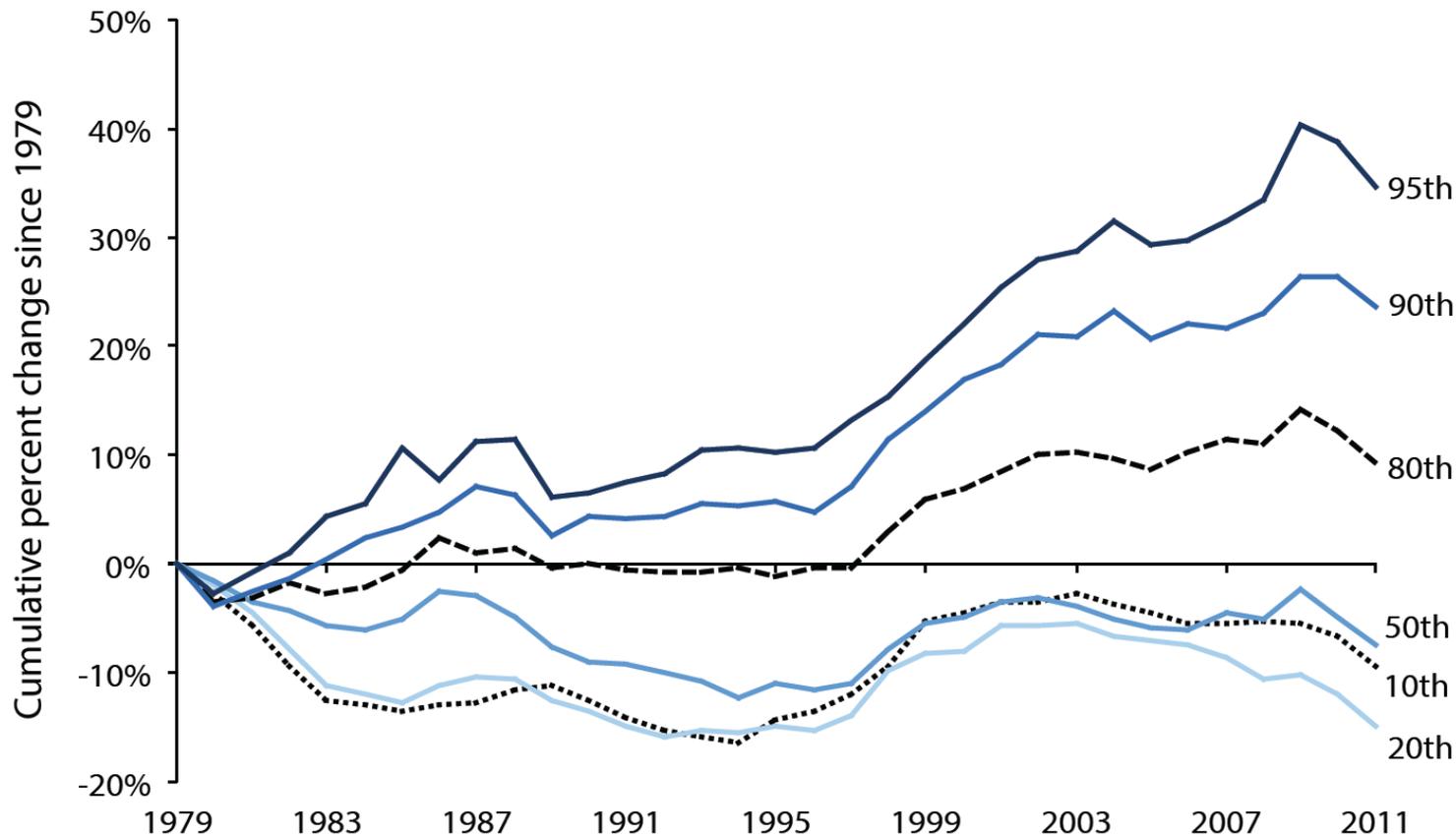
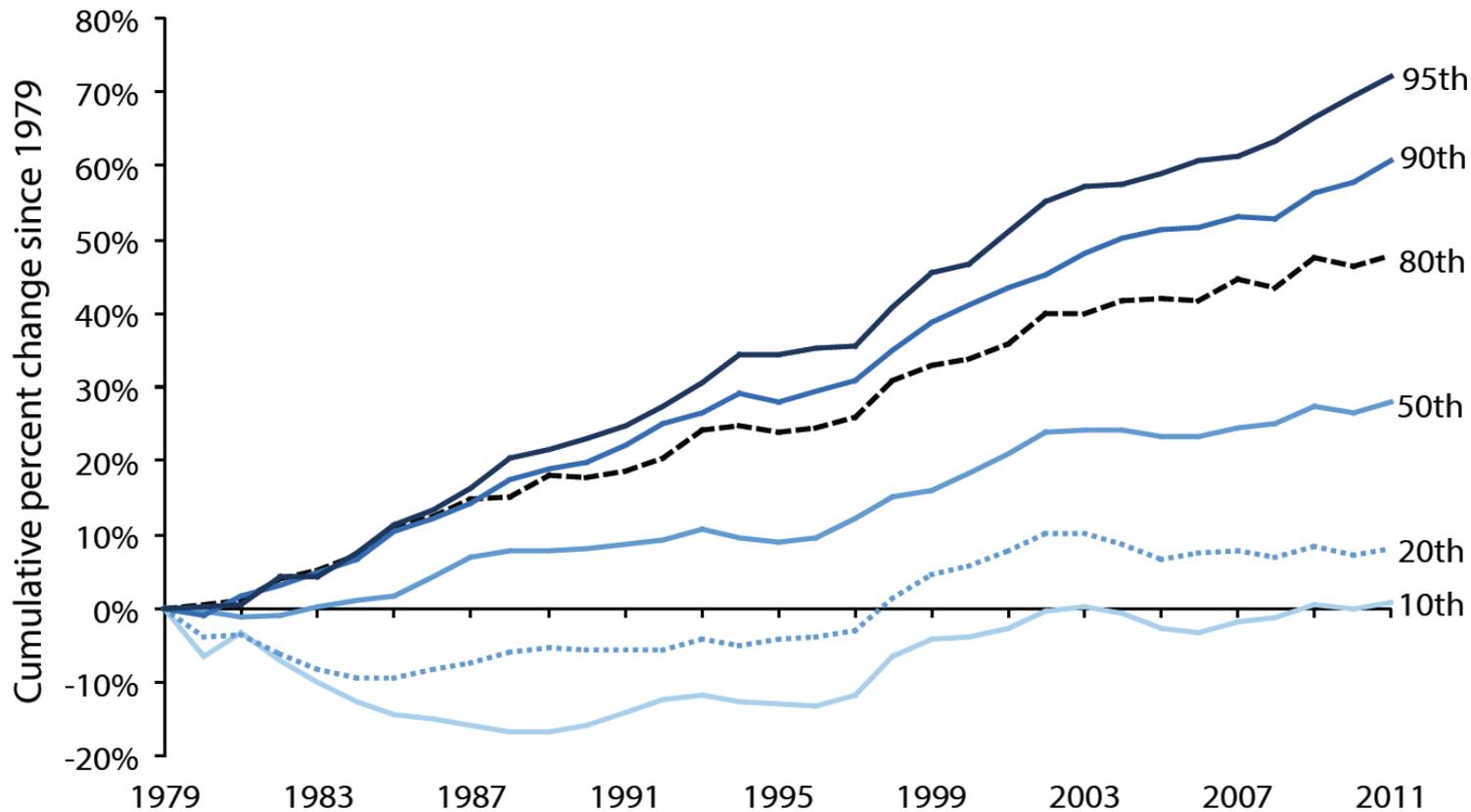


Figure 4C Cumulative change in real hourly wages of men, by wage percentile, 1979–2011



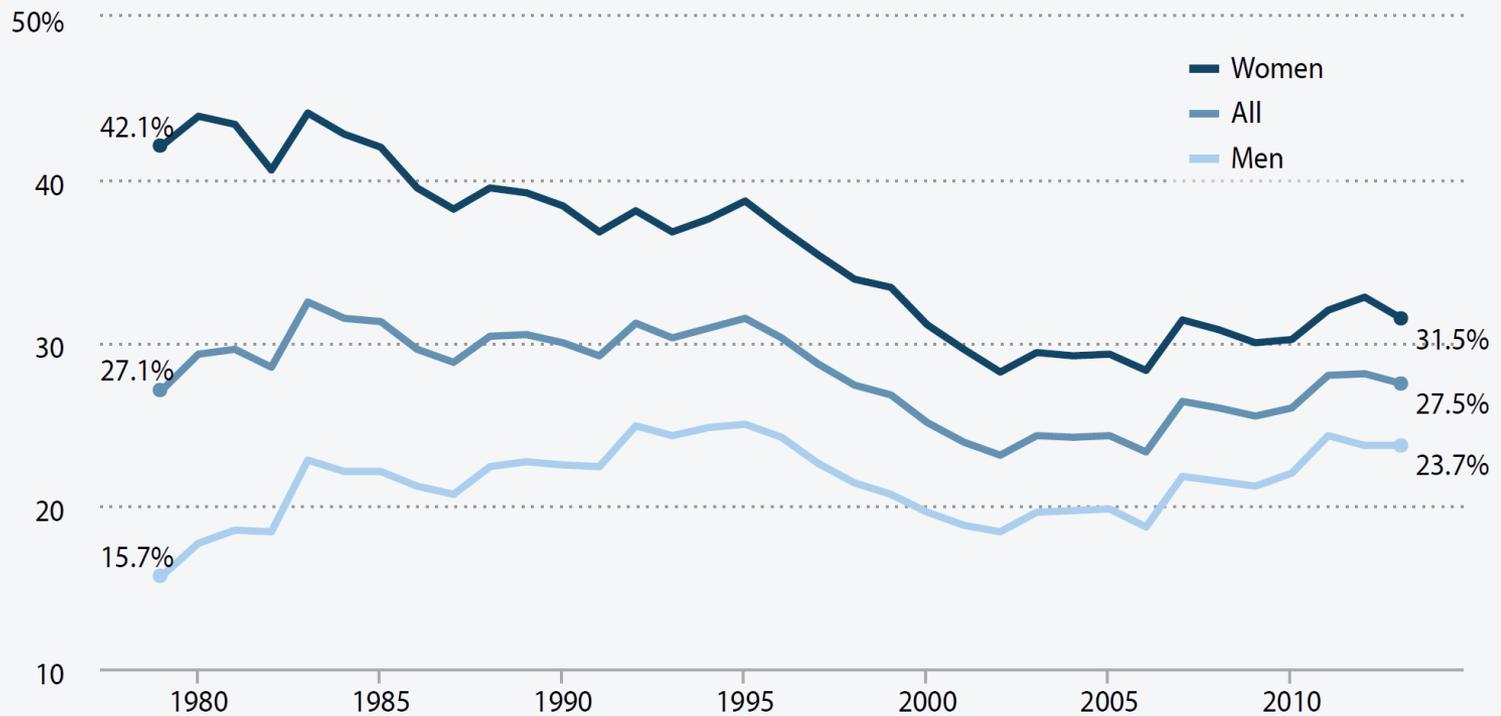
Source: Authors' analysis of Current Population Survey Outgoing Rotation Group microdata

Figure 4D Cumulative change in real hourly wages of women, by wage percentile, 1979–2011



Source: Authors' analysis of Current Population Survey Outgoing Rotation Group microdata

Share of workers earning poverty-level wages, by gender, 1979–2013



Note: The poverty-level wage in 2013 was \$11.45.

Source: Authors' analysis of Current Population Survey Outgoing Rotation Group microdata

UPDATED FROM: Figure 4E in *The State of Working America, 12th Edition*, an Economic Policy Institute book published by Cornell University Press in 2012

ECONOMIC POLICY INSTITUTE

EPI, State of Working America. Share of workers who earn less than poverty wage (FTFY supporting family of 4)

- In a basic sense, these changes in wage and income distribution contribute fundamentally to trends in poverty
- This factor would be putting upward pressure on poverty rates over time; thus the observed trends should be interpreted against this finding.
- But taking a step back, what do we know about why these labor market trends are occurring?

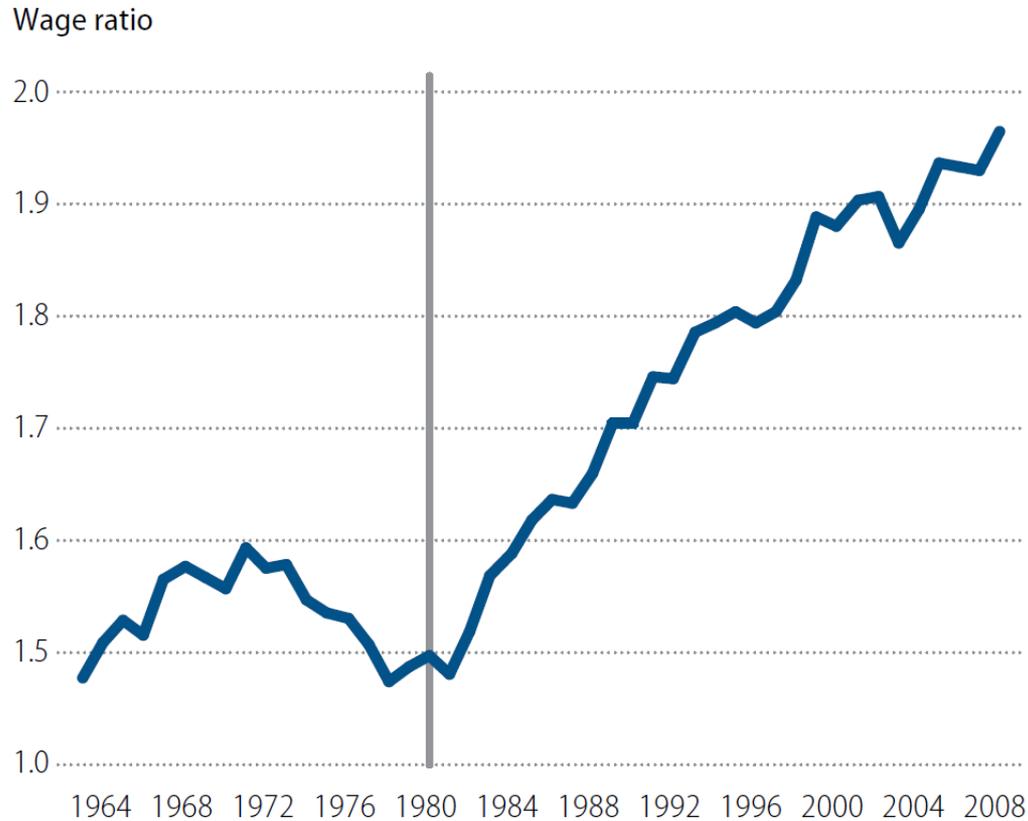
2. Understanding the forces leading to trends in wages and earnings

“Returns to Skill” – earnings gap between college and high school degrees

- Rising steadily; doubled between 1979 and 2012
- Trends also experienced by other countries
- The Piketty and Saez work on the top 1% is important, but understanding the skilled versus unskilled worker dynamics is also very important

FIGURE 10

College degree vs. high school diploma weekly wage ratio, 1963–2008

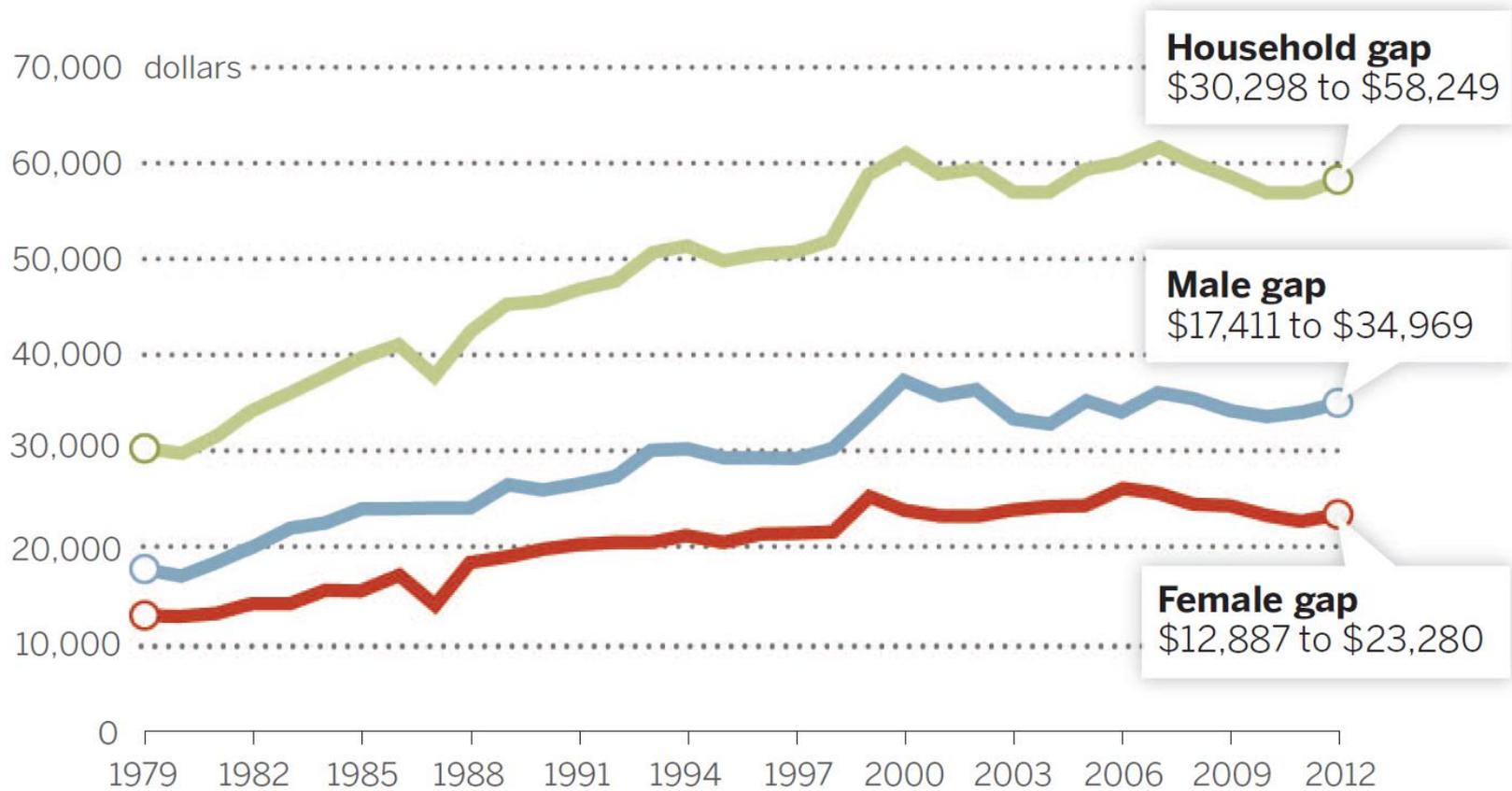


Returns to skill:

The college premium, the labor market gains not net of college costs (but net of college costs the returns are also steadily increasing)

College/high school median annual earnings gap, 1979–2012

In constant 2012 dollars



Model for understanding “skill premium”

- Suppose there is unskilled and skilled labor → then we can study the determinants of D & S of skilled (relative to unskilled) labor and the price (wage) of skilled relative to unskilled labor
- Market compensation depends on the
 - Skill demand: what employers require
 - Skill supply: what skills workers acquire
- “Skill premium” comes out of these interactions
- As in basic S & D model, if increases in demand outpace increases in supply then wages rise. If increases in supply outpace increases in demand then wages fall
- The same is true for relative wages (and relative D and S)
- Do graph on board

Factors affecting D and S

- Demand:
 - Over last 100 years innovation has led to reduction in demand for physical labor (technological change)
 - In recent decades the process of machine substitution for routine human tasks has reduced demand for those doing routine tasks (where workers are substitutes) and increased the demand for those who excel in more abstract tasks (where workers are complements)
- Supply:
 - Trends in education; gains slowed in 1980s
- Bottom line: if demand for skilled labor keeps increasing AND the supply of skilled labor does not keep up, then the wages of skilled labor increase.

Trends in education

- 1960s/1970s: supply of young college educated increased rapidly relative to high school educated
- Since then educational attainment slowed (still increasing), especially for men.
- Research by Goldin and Katz (2008) and others shows that more than half of the increase in wage inequality is due to the rising premium to skill (and thus the slowdown in educational attainment)

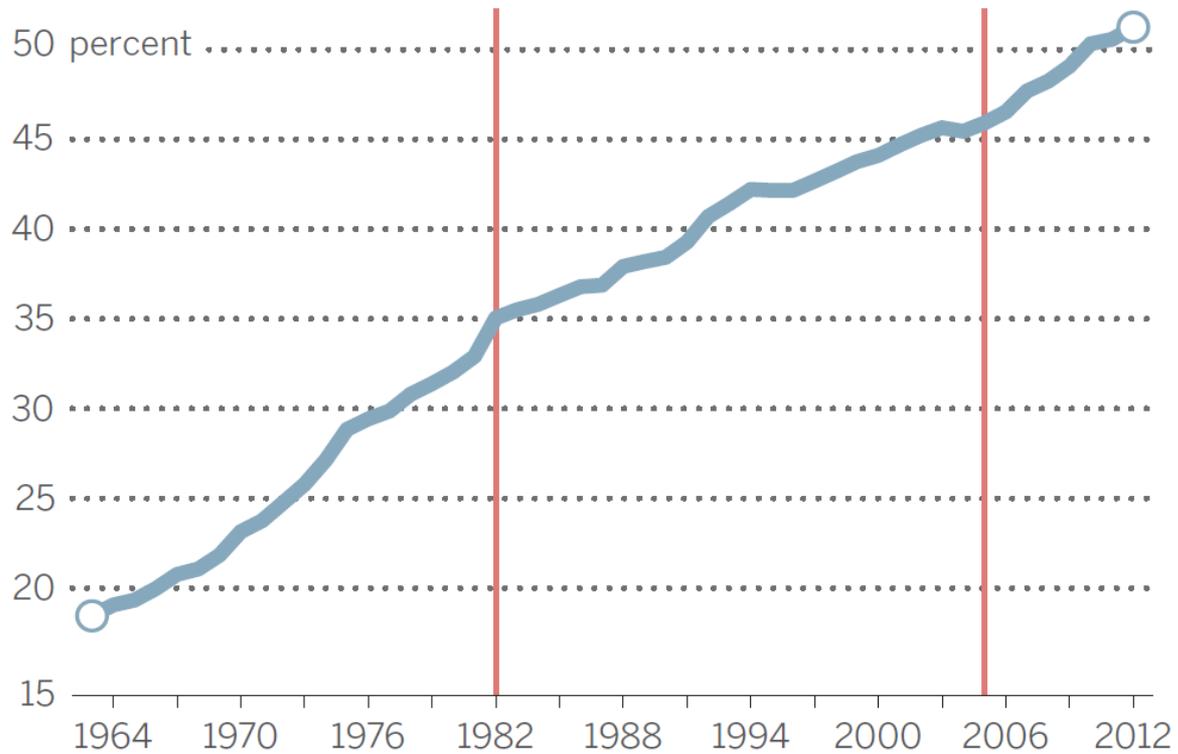


Fig. 3. The supply of college graduates and the U.S. college/high school premium, 1963–2012. (A) College share of hours worked in the United

Trends more compelling when you look at new labor market entrants

FIGURE 9

College degree vs. high school diploma log relative supply, 1963–2008

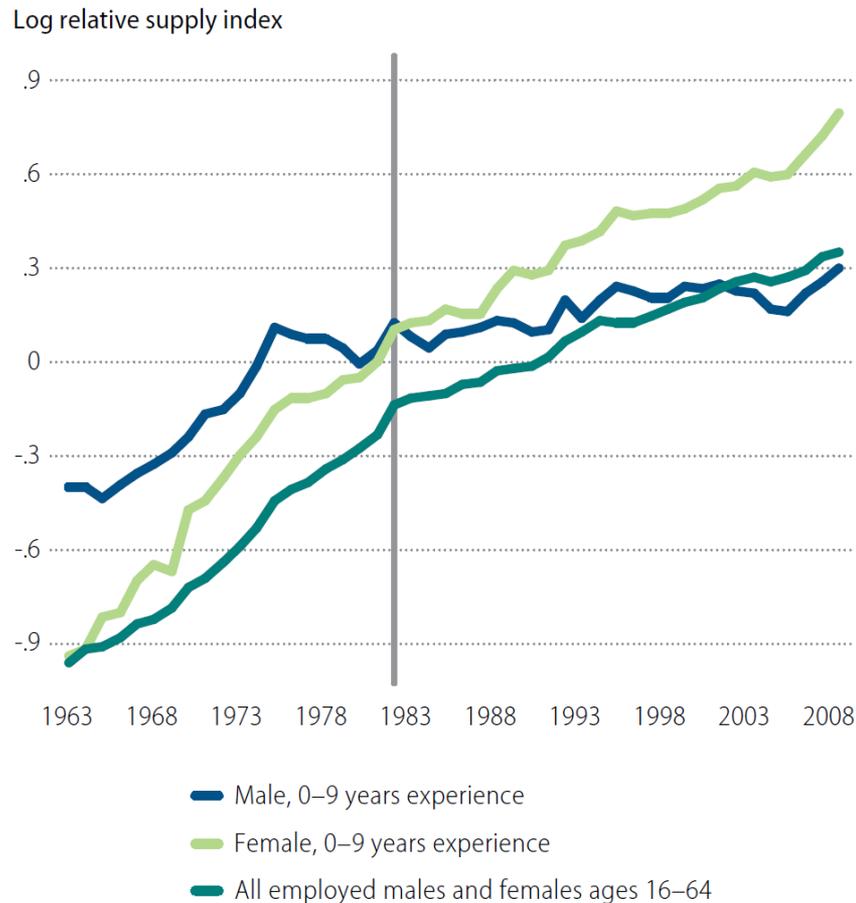
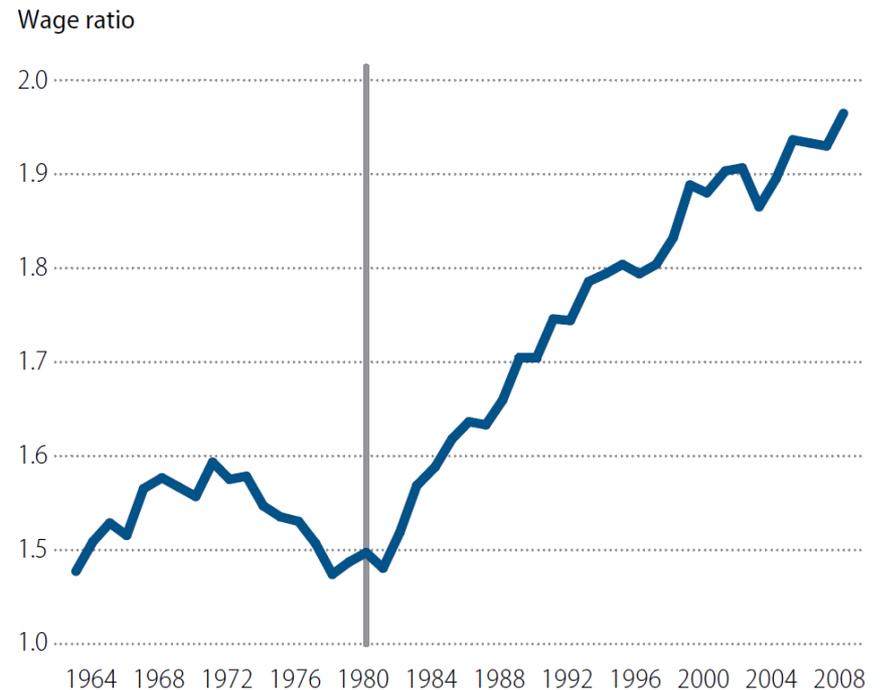


FIGURE 10

College degree vs. high school diploma weekly wage ratio, 1963–2008



Source: March CPS data for earnings years 1963–2008. Log weekly wages for full-time, full-year workers are regressed in each year on four education dummies (high school dropout, some college, college graduate, greater than college), a quartic in experience, interactions of the education dummies and experience quartic, and two race categories (black, nonwhite other). The composition-adjusted mean log wage is the predicted log wage evaluated for whites at the relevant experience level (5, 15, 25, 35, 45 years) and relevant education level (high school dropout, high school graduate, some college, college graduate, greater than college). The mean log wage for college and high school is the weighted average

- At this point, without college there isn't much of a path to a decent life.
- We aren't sending nearly enough people to college.
- The public sector is the driver here. But we haven't built enough public institutions to keep up.
- Instead, we've offered loans.
- The consequences: Growth of for-profits, rise in indebtedness.

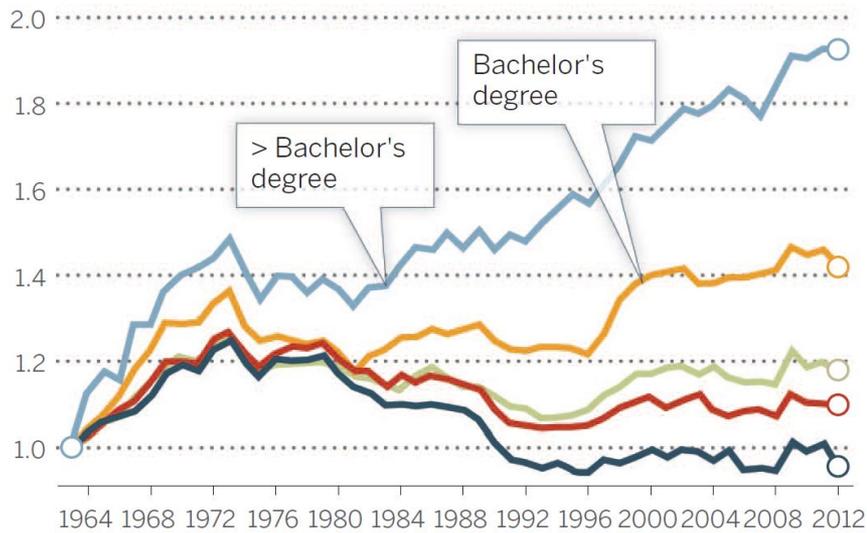
In addition to trends in relative wages, non-college workers are experiencing absolute reductions in real wage levels

- Increases in the skill premium are coming from gains for high skill and losses for low skill
- What is leading to reductions in real wages for less skilled workers?
 - Technological change (as above)
 - Globalization: Chinese manufacturing gains led to reduction in manufacturing in the US and thus declines in wages in those industries
 - Fall of unions
 - Fall in real value of minimum wages

Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

Real weekly earnings relative to 1963 (men)

A



Real weekly earnings relative to 1963 (women)

B

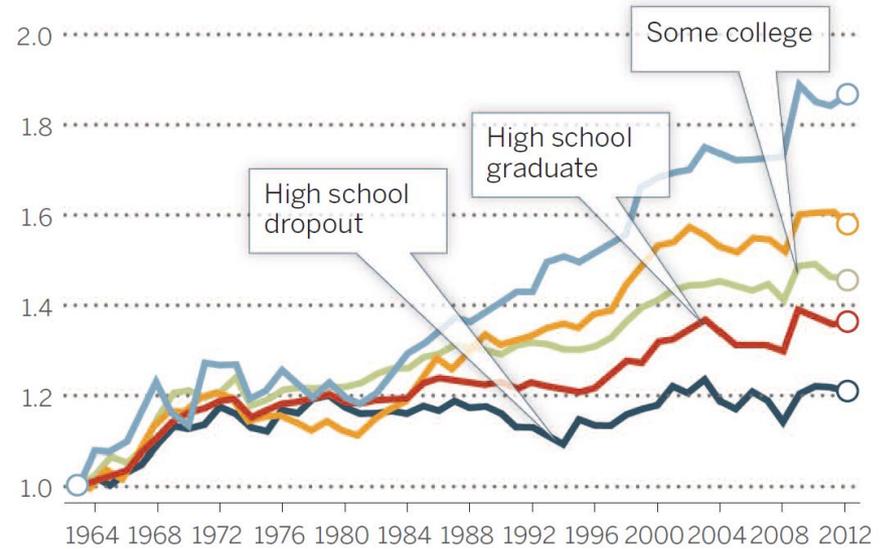


Fig. 6. Change in real wage levels of full-time workers by education, 1963–2012. (A) Male workers, (B) female workers. Data and sample construction are as in Fig. 3.

The result

- Employment growth is “polarizing” into relatively high-skill, high-wage jobs and low-skill, low-wage jobs (Autor, THP) [at the expense of middle skill jobs]

FIGURE 1

Smoothed changes in employment by occupational skill percentile, 1979–2007

Change in employment share

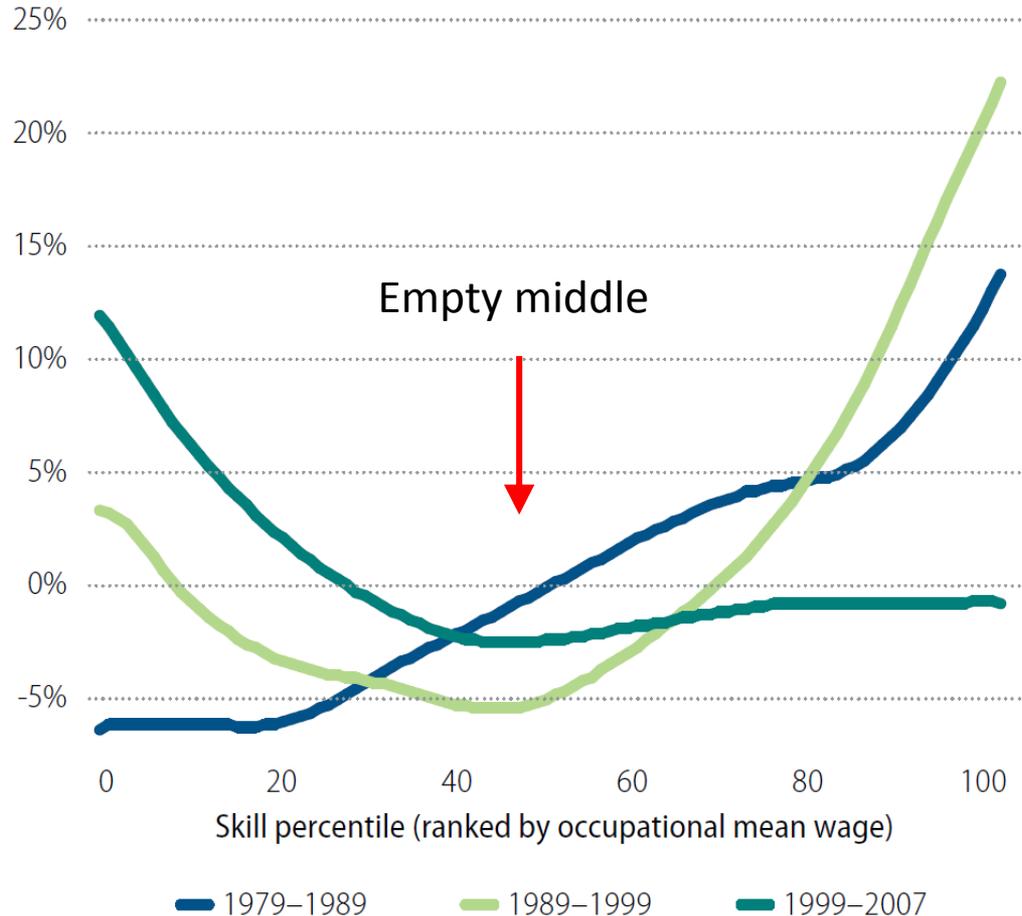
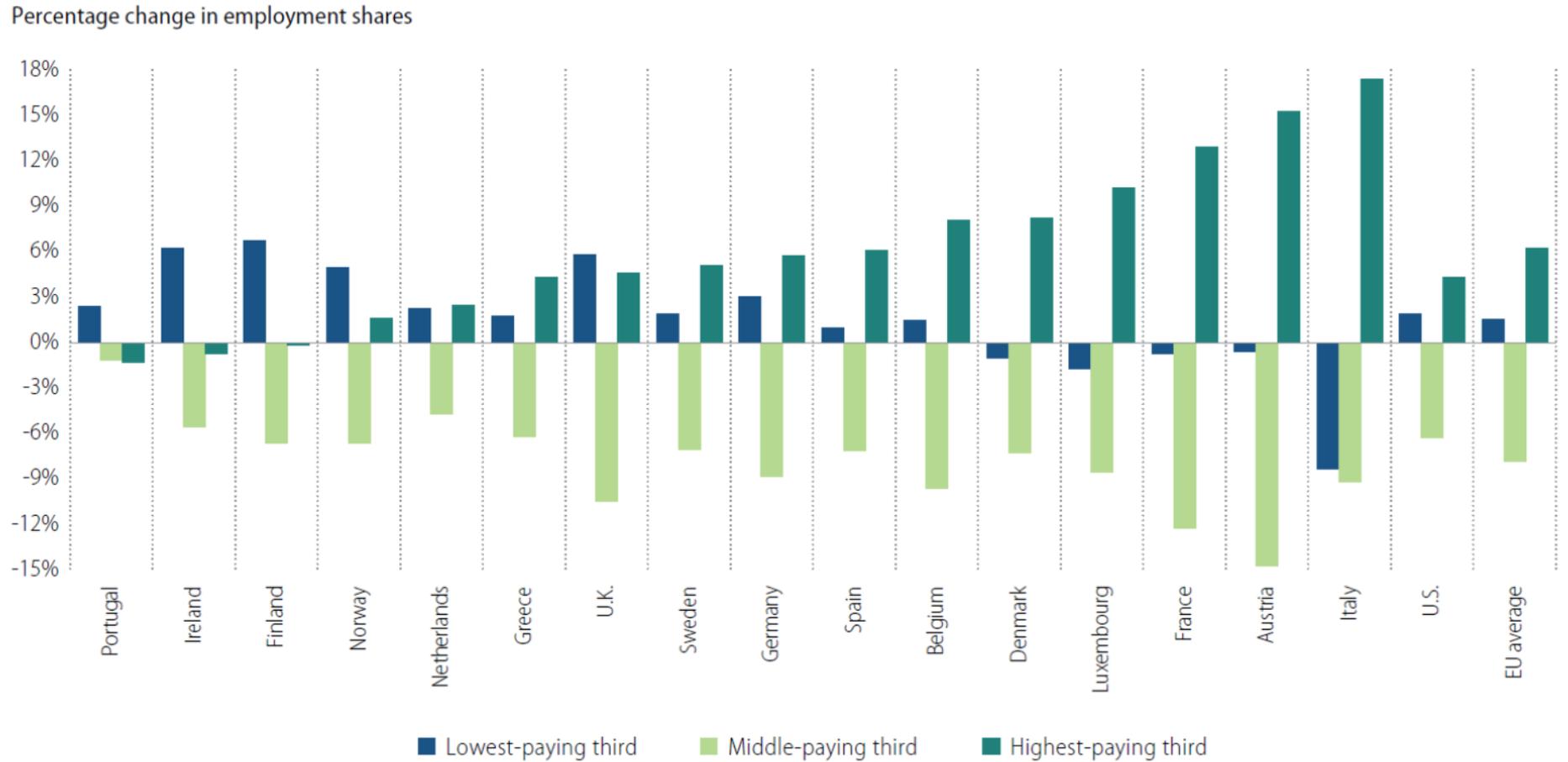


FIGURE 6
 Change in employment shares by occupation in 16 European countries
 Occupations grouped by wage tercile: Low, middle, high, 1993–2006



Autor, "The Polarization of Job Opportunities in the U.S. Labor Markets," The Hamilton Project.

Author THP “Polarization” – Key forces

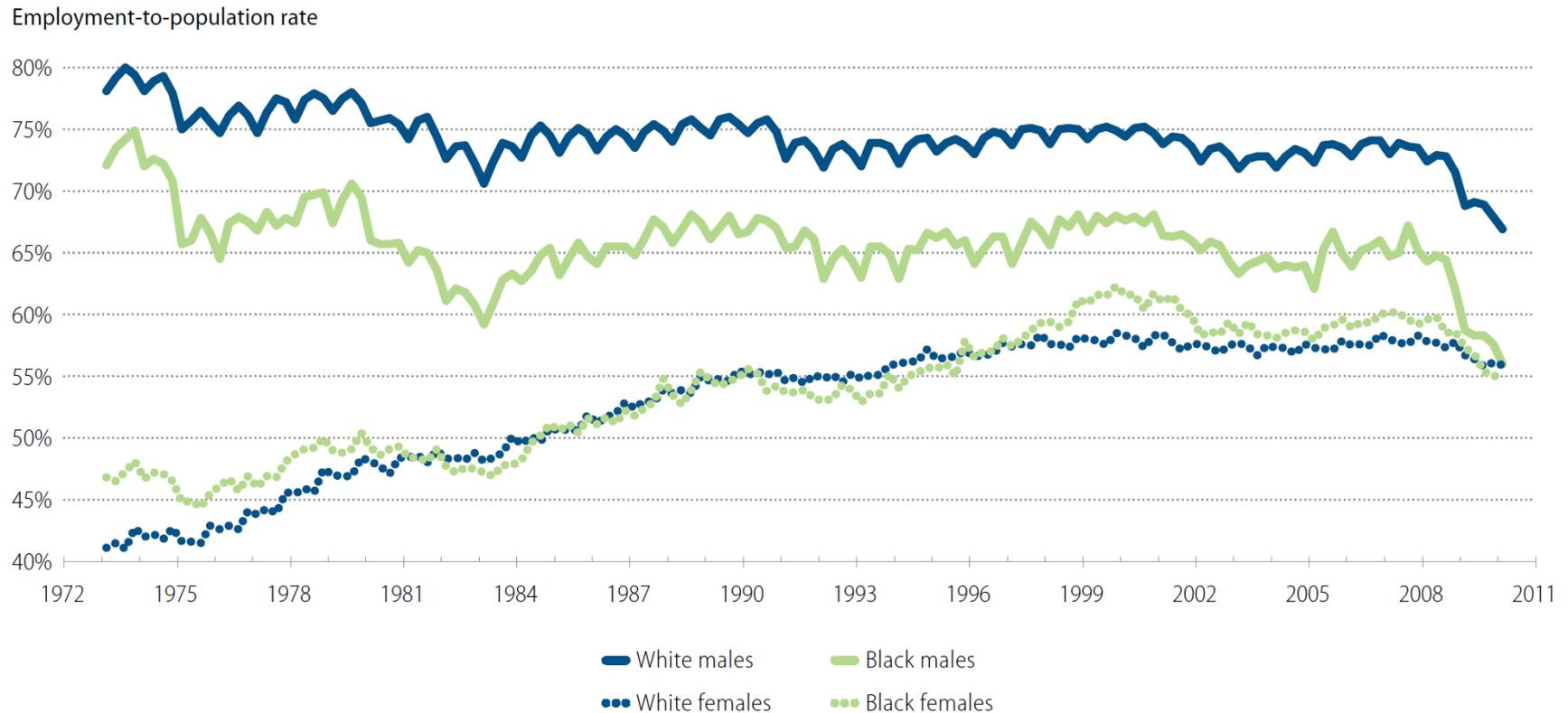
1. The slowing rate of four-year college degree attainment among young adults, particularly males
2. Changes in technology, international trade, and the international offshoring of jobs, which affect job opportunities and skill demands
3. Changes in U.S. labor market institutions affecting wage setting, including labor unions and minimum wage legislation

- Implication of (or contributor to?) these trends is an increase in non-employment
- Discussed in B. Appelbaum NYT piece

Non-employment rising

FIGURE 7

Employment-to-population rates among black and white males and females, ages 20+, 1973–2010



Appelbaum NYT piece

- Isolation of no work easier with internet?
- Rise of federal disability leave?
- Low pay: “44 percent of men in the survey said there were jobs in their area they could get but were not willing to take”
- But “[Larry] Katz, the Harvard economist, said, however, that some men might choose to describe themselves as unwilling to take low wage jobs when in fact they cannot find any jobs. There are about 10 million prime age men who are not working, but there are only 4.8 million job openings for men and women of all ages, according to the most recent federal data
- <http://www.nytimes.com/interactive/2014/12/12/upshot/where-men-arent-working-map.html?abt=0002&abg=0>

Policy implications of this argument

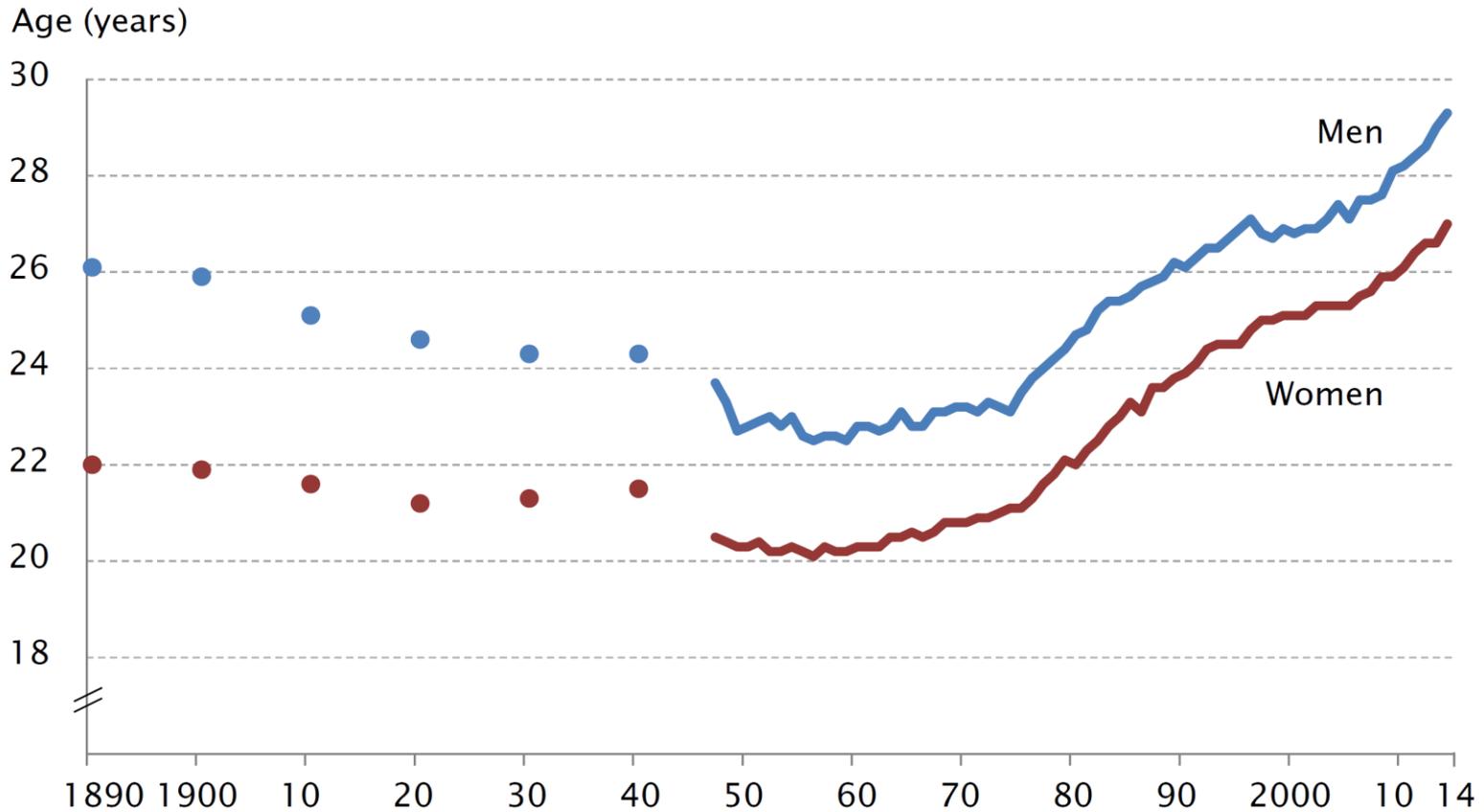
- Minimum wages
- Promote unionization
- Promote skills: Pre-K, K-12
- Increase college access
- Funded perhaps with higher MTR

3. Facts: marriage and family structure

- Births to unmarried women has increased for all race / ethnicities in the U.S.
- The SES gap (education) in marriage is widening

Figure MS-2

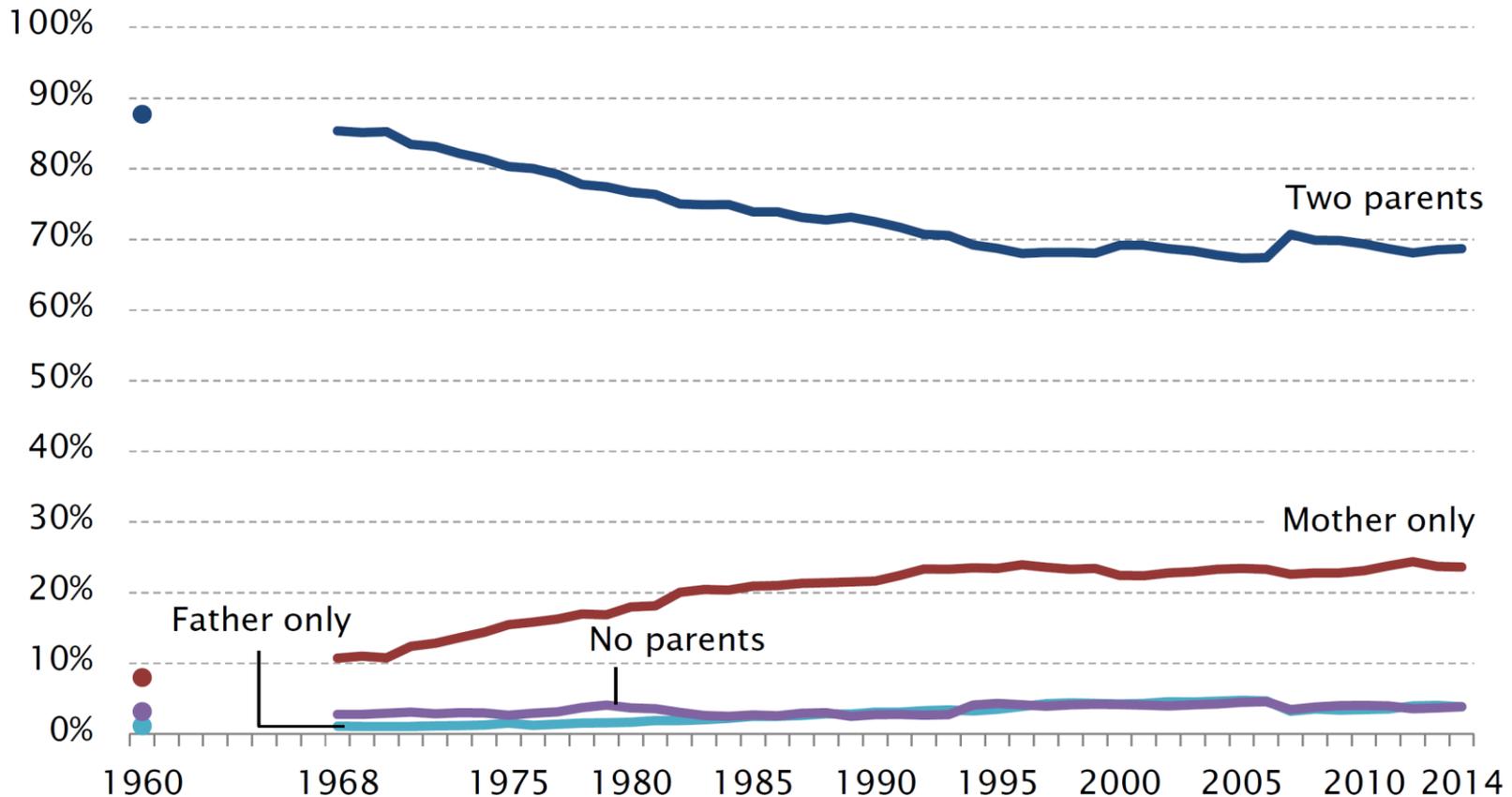
Median age at first marriage: 1890 to present



Source: U.S. Census Bureau, Decennial Censuses, 1890 to 1940, and Current Population Survey, Annual Social and Economic Supplements, 1947 to 2014.

Figure CH-1

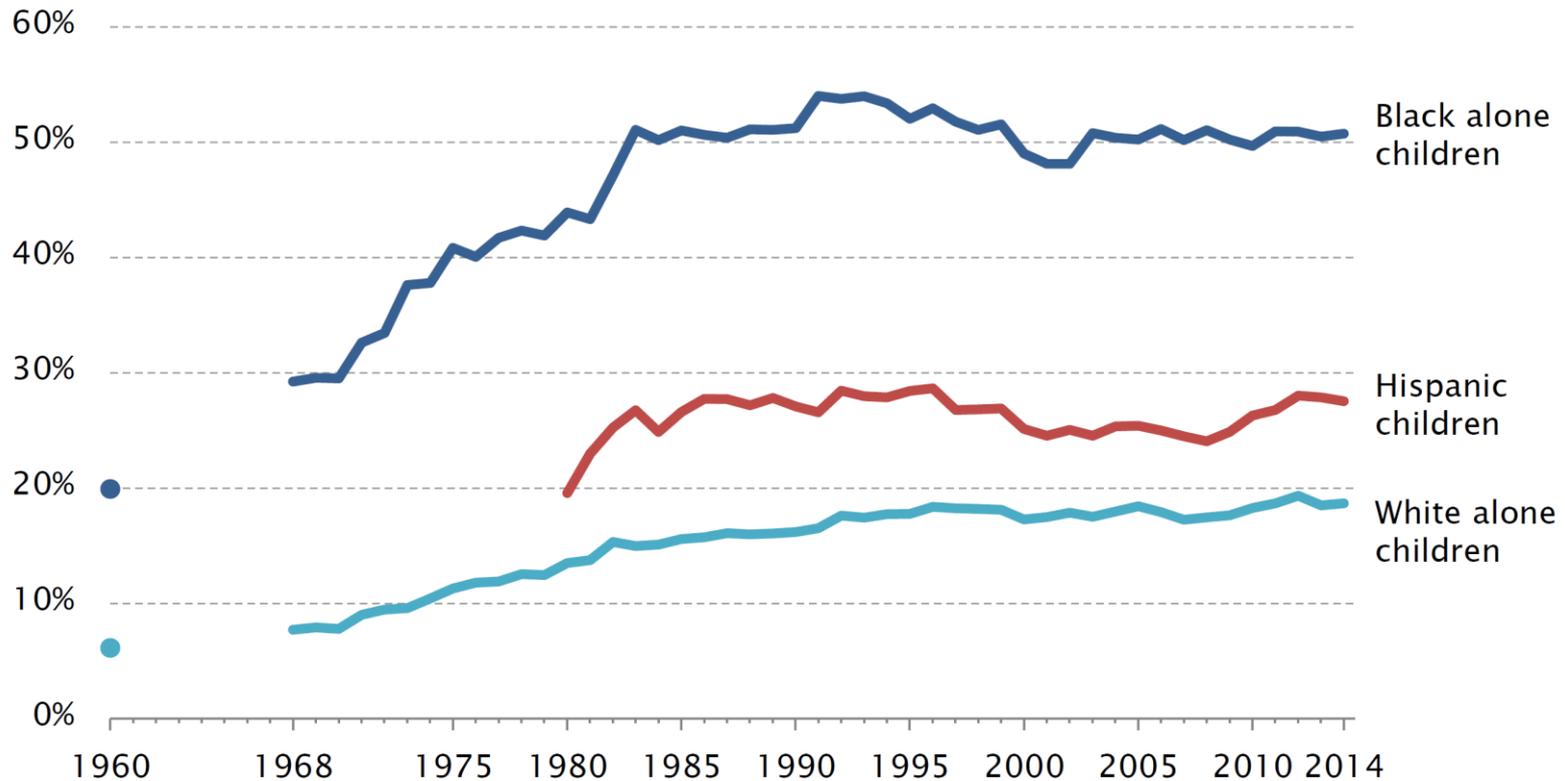
Living arrangements of children: 1960 to present



Source: U.S. Census Bureau, Decennial Census, 1960, and Current Population Survey, Annual Social and Economic Supplements, 1968 to 2014.

Note: Direct identification of both parents began in 2007, resulting in the ability to identify children living with two unmarried parents.

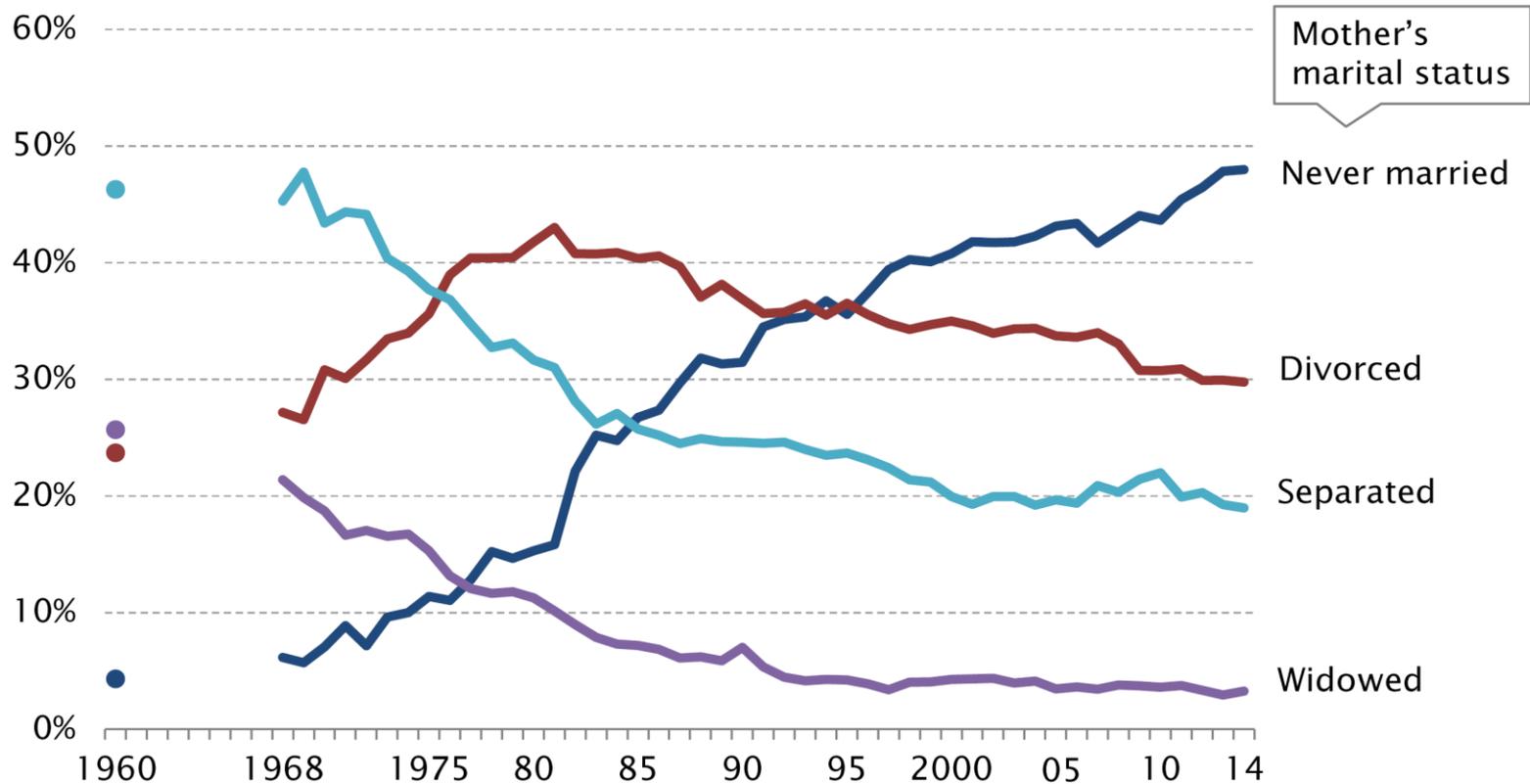
Figure CH-2.3.4 Children under 18 living with their mother only



Source: U.S. Census Bureau, Decennial Census 1960, and Current Population Survey, Annual Social and Economic Supplements 1968 to 2014.

Notes: Direct identification of both parents began in 2007, resulting in the ability to identify children living with two unmarried parents. The collection of race and Hispanic origin has changed over time. Before 2003 respondents had to select a single race. People of Hispanic origin may be of any race.

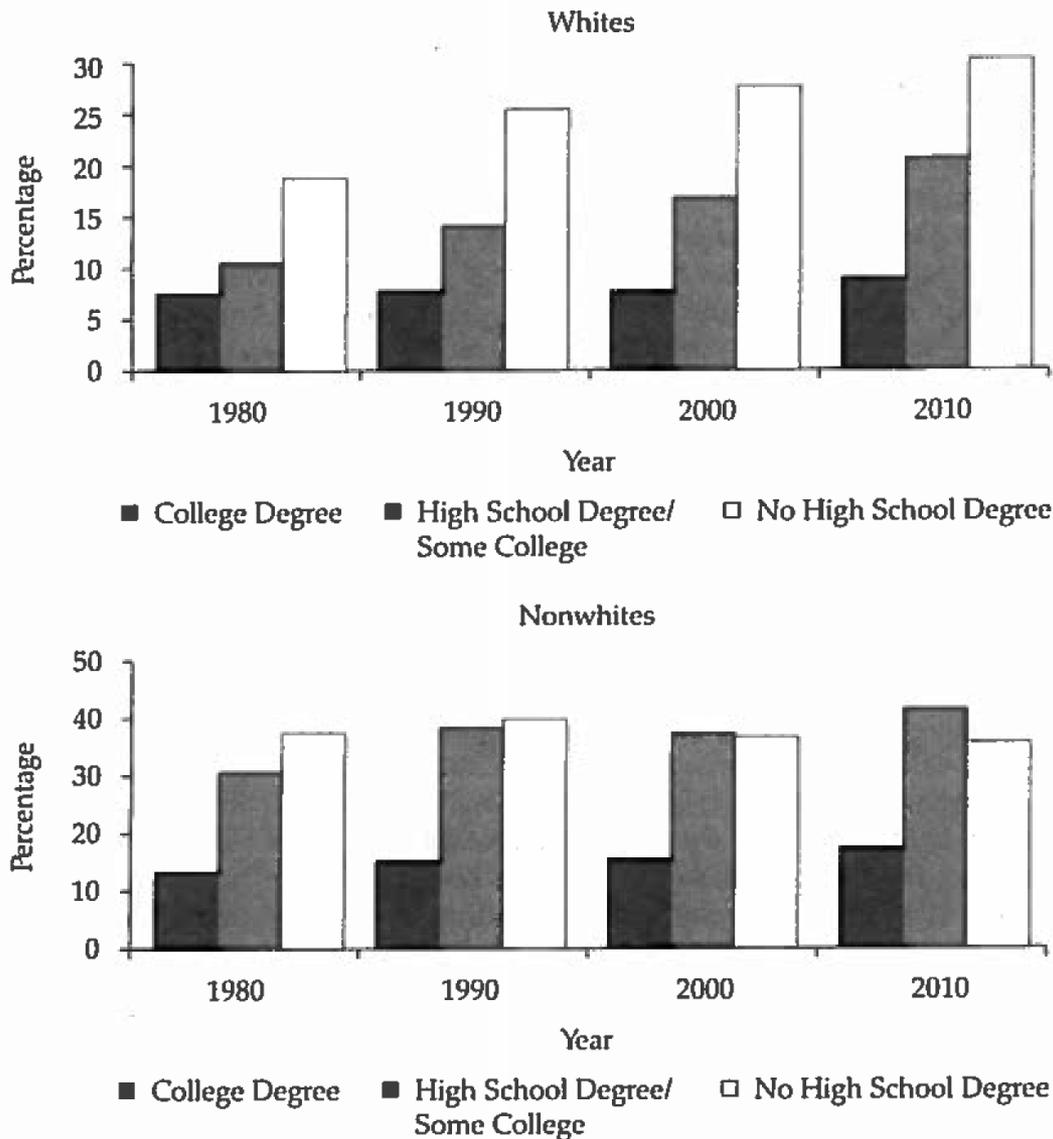
Figure CH-5 Children under 18 living with their mother only



Source: U.S. Census Bureau, Decennial Census, 1960, and Current Population Survey, Annual Social and Economic Supplements, 1968 to 2014.

Note: Separated includes married spouse absent. Direct identification of both parents began in 2007, resulting in the ability to identify children living with 2 unmarried parents.

Figure 5.2 Children Living with an Unmarried Mother, by the Mother's Education, 1980–2010



Inequalities across SES are growing

Source: My tabulations, pursuant to Stykes and Williams (2013), from the IPUMS data.

- High SES women are delayed marriage (but delaying childbearing even further)
- Low SES women are delaying marriage (or avoiding it all together) but are not delaying childbearing

Marriage and family structure – implications for poverty and inequality

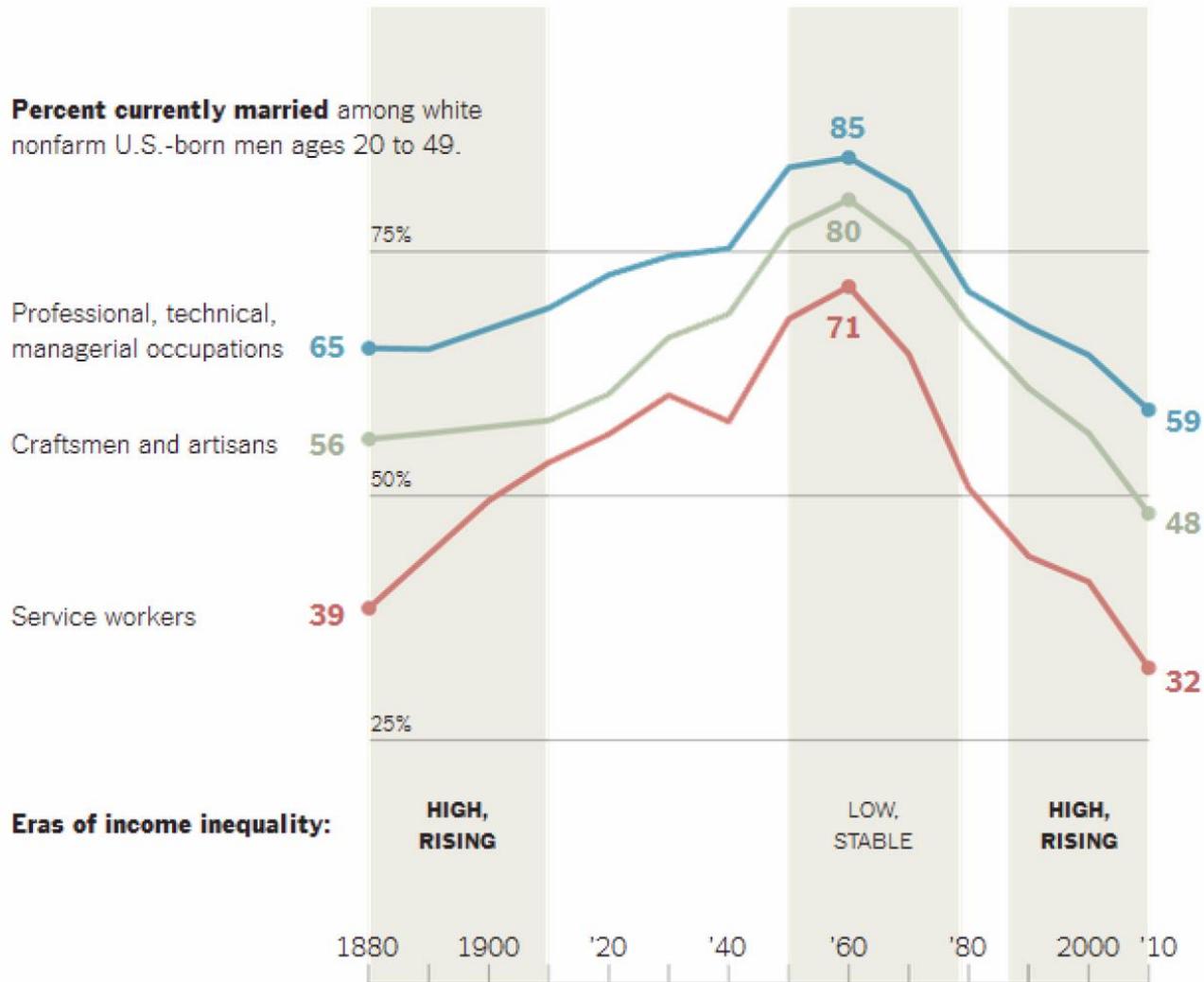
- This is important because poverty rates of single parent families are much higher than for two parent families
- Child outcomes are also worse
- However, this is not necessarily causal and could be due to other factors that are correlated with these choices

- Andrew Cherlin shows that the trends in marriage are related to trends in inequality
- “digging into historical census records shows that social class differences in marriage have been tied to the extent of income inequality among white Americans for at least 130 years.”

Inequality at the Altar

The gap in marriage rates has been widest when income inequality was highest.

Percent currently married among white nonfarm U.S.-born men ages 20 to 49.



Source: Integrated Public Use Microdata Series, University of Minnesota

Forces shaping marriage

- Unmarried couples with children – obstacles to marriage
 1. Concerns about financial stability
 2. Relationship quality
 3. Fear of divorce

How does this play out among lower income women

- “Relationship churning” (Kathryn Edin)
- Edin found no evidence that marriage held less meaning; but aspirational, luxury, dream to aspire to
- Yet Edin found children to be a necessity and an essential part of a women’s life
- Reluctance to marry shows reverence for it
- Marriage after financial goals have been met (including own career) and with financial security
- With the decline in labor market opportunities for low skill men, the rewards to marriage have declined

5. Putting it together - decomposition

- Poverty rates are higher for single parents, low education levels, etc
- Given trends over time in these factors, how much of the changes in poverty over time can be attributed (in an accounting sense) to the changes in the population in the U.S.?
- Decomposition or Oaxaca decomposition

Results

- 1959-1979: poverty fell by 10pp
 - On net demographics serve to decrease poverty
 - Leading to reduction: education increases, family size declines
 - Leading to increases: single parent increases
- 1979-2013: poverty rose by 3pp
 - Demographic effects are neutral (educational gains slowed) or contribute to the increase
- However the decomposition shows that a small quantitative share of the changes over time are due to these factors.
- Bivens et al (2014) find that of the 1979-2013 period rise of 3pp, demographic change -0.7pp, economic growth -3.4pp, inequality +7.4pp

Model for Discrimination

Suppose you observe wages for men w_m and for women w_f

$\Delta\bar{w}$ is the difference in mean wages

The goal is to decompose the raw wage differential into:

(1) portion due to differences in skills

(2) portion due to discrimination, or difference in wages net of skills

Let the wages be represented by the following model:

$$w_m = \alpha_m + \beta_m s_m$$

$$w_f = \alpha_f + \beta_f s_f$$

where s = schooling (could be a vector X)

Given that OLS goes through the mean of X and Y, we can then substitute fitted values of both equations into $\Delta\bar{w}$

$$\Delta\bar{w} = \bar{w}_m - \bar{w}_f = \hat{\alpha}_m + \hat{\beta}_m\bar{s}_m - (\hat{\alpha}_f + \hat{\beta}_f\bar{s}_f) = (\hat{\alpha}_m - \hat{\alpha}_f) + \hat{\beta}_m\bar{s}_m - \hat{\beta}_f\bar{s}_f$$

If you add and subtract $\hat{\beta}_m\bar{s}_f$ and rearrange you get

$$\Delta\bar{w} = \bar{w}_m - \bar{w}_f = (\hat{\alpha}_m - \hat{\alpha}_f) + (\hat{\beta}_m - \hat{\beta}_f)\bar{s}_f + \hat{\beta}_m(\bar{s}_m - \bar{s}_f)$$

observed change = due to discrimination + due to diff skills

Different skills = difference in skills ($\bar{s}_m - \bar{s}_f$), valued at the “price” per skills (as per regression model) $\hat{\beta}$.

Discrimination = female skills (\bar{s}_f), valued at the difference in “price” per skills (between the male and female regression model).

NOTE: This decomposition is not unique. You could value at female regression beta rather than male. Also, can do it as an average across them.

Applying this decomposition approach to understanding trends in poverty

1959-1979 poverty fell by 10pp

1979-2013 poverty increased by 3pp

Question: what would have happened to the evolution of poverty if the only changes that occurred were in the demographic composition of the population and each group's poverty rate was unchanged (e.g. share female headed household increased, but the poverty rate for single and married stays at a constant value)

Let Y be poverty and X be demographic categories (e.g. $X=1$ if single mother, 0 otherwise):

$$Y_{79} = \alpha_{79} + \beta_{79}X_{79}$$

$$Y_{59} = \alpha_{59} + \beta_{59}X_{59}$$

The decomposition of the change in poverty is:

$$\Delta \bar{Y} = \bar{Y}_{79} - \bar{Y}_{59} = \underbrace{(\hat{\alpha}_{79} - \hat{\alpha}_{59}) + (\hat{\beta}_{79} - \hat{\beta}_{59})\bar{X}_{59}}_{\text{coefficient effect}} + \underbrace{\hat{\beta}_{79}(\bar{X}_{79} - \bar{X}_{59})}_{\text{demographic composition effect}}$$

Observed change = coefficient effect + demographic composition effect

The decomposition of the change in poverty is:

$$\Delta \bar{Y} = \bar{Y}_{79} - \bar{Y}_{59} = \underbrace{(\hat{\alpha}_{79} - \hat{\alpha}_{59}) + (\hat{\beta}_{79} - \hat{\beta}_{59})\bar{X}_{59}}_{\text{coefficient effect}} + \underbrace{\hat{\beta}_{79}(\bar{X}_{79} - \bar{X}_{59})}_{\text{demographic composition effect}}$$

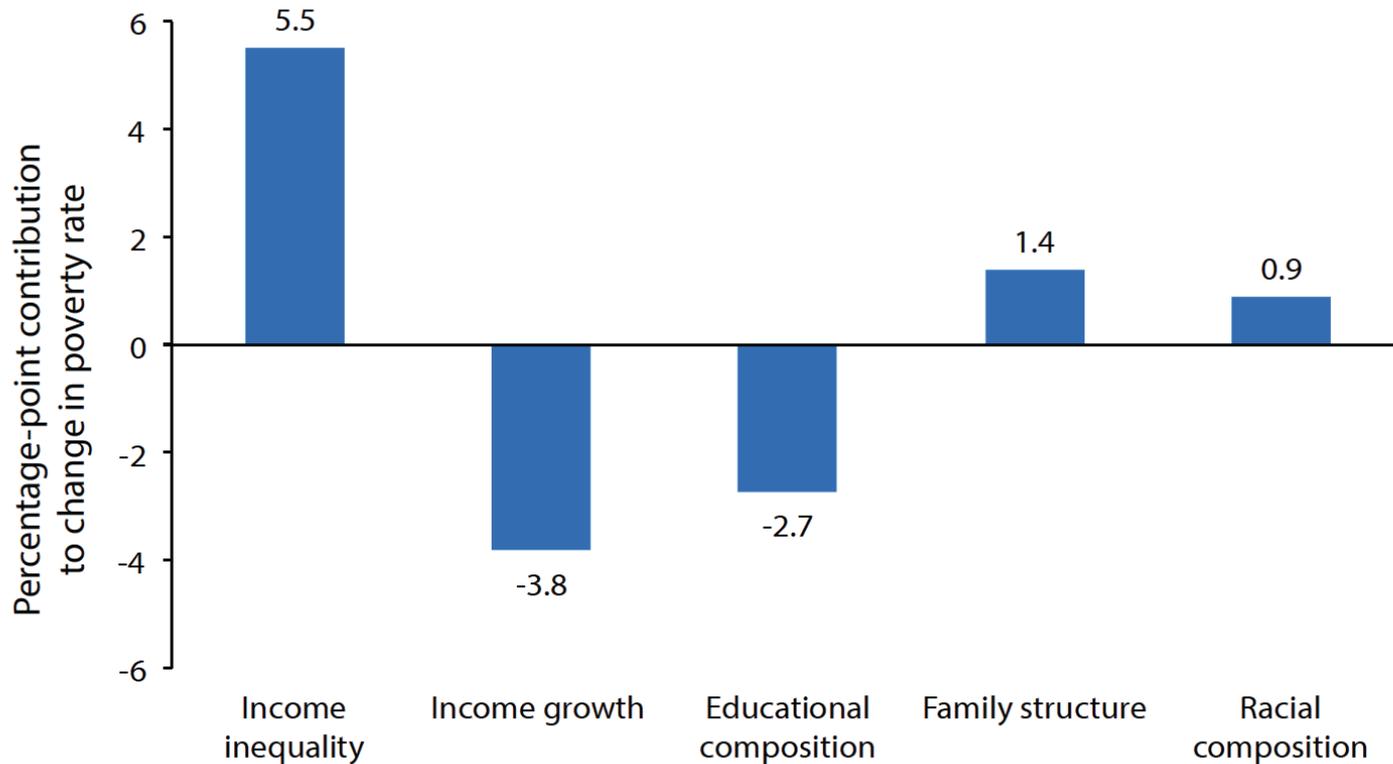
Observed change = coefficient effect + demographic composition effect

Applying this to the change in poverty:

	1959-1979	1979-2013
Actual change	---	++
Education	--	--
Age	⊖	-
Family structure	++	++
Family size	-	⊖
Race/Ethnicity	+	+

Overall, though, these factors explain very little of the changes. Something else is explaining the trends.

Figure 7Q Impact of changes in U.S. economic and demographic composition on the poverty rate, 1979–2007



Note: The bars show by how much the poverty rate increased or decreased due to rising income inequality, income growth across the income distribution, and changes in the education levels, family structures, and racial composition of the U.S. population.

Source: Authors' analysis of Current Population Survey Annual Social and Economic Supplement microdata. Analysis based on Danziger and Gottschalk (1995)

Consequences of Poverty

Hilary Hoynes

PP290

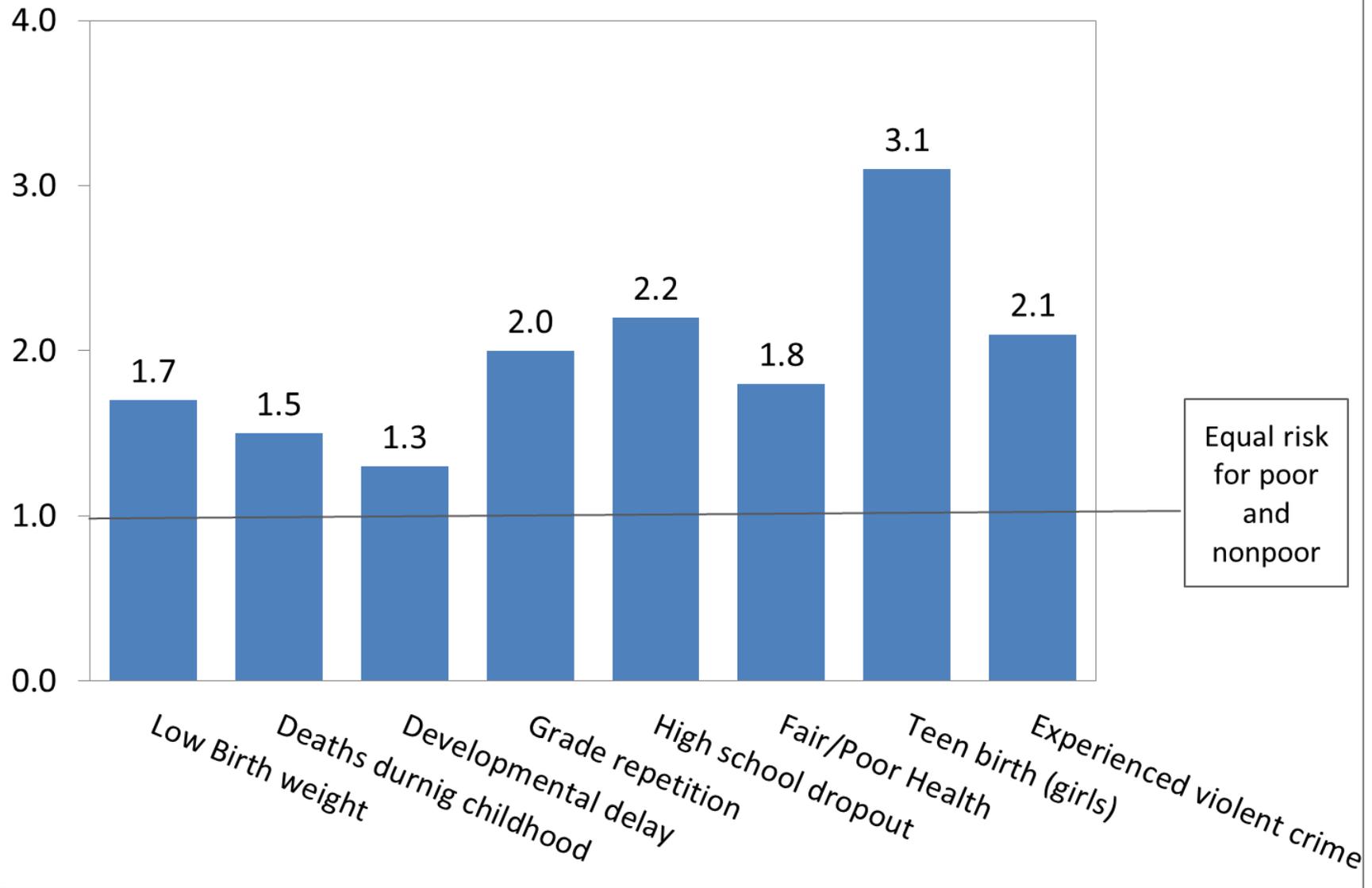
Outline of lecture

1. Facts
2. Theories
3. Approaches to get causal estimates
4. What we know from the literature
5. New research frontiers:
 - Biology of poverty
 - Poverty and decision making

Children who grow up poor are more likely to

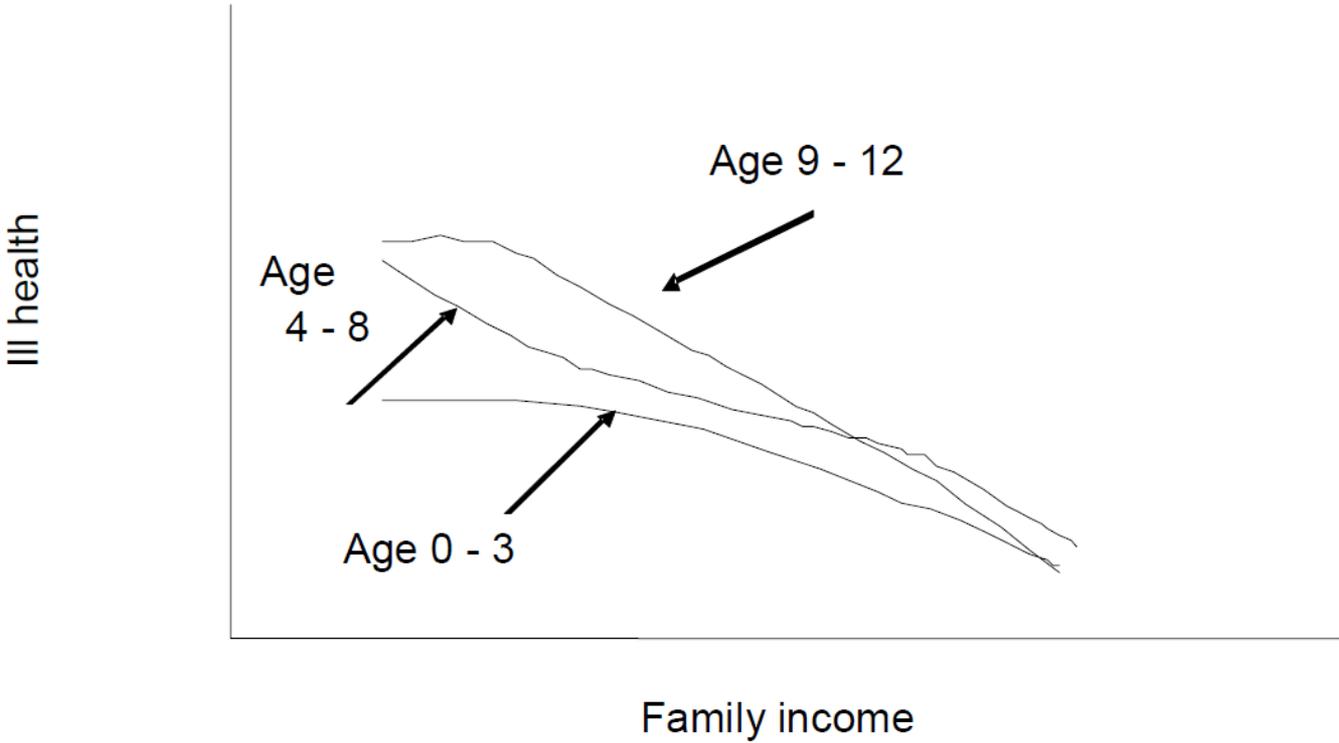
- Not attend preschool
- Perform worse in school
- Drop out of high school, have lower educational attainment
- (Girls) Have a teen birth
- (Boys) Be incarcerated
- Live in poverty as adults
- Receive government assistance as adults
- Have connection to the child welfare system
- Have worse health and shorter life expectancy

Risk of adverse outcome for poor / nonpoor children



Source: Brooks-Gunn and Duncan "The Effects of Poverty on Children," *The Future of Children*, 1997.

Figure 1: Ill Health and Family Income, by Age of Child

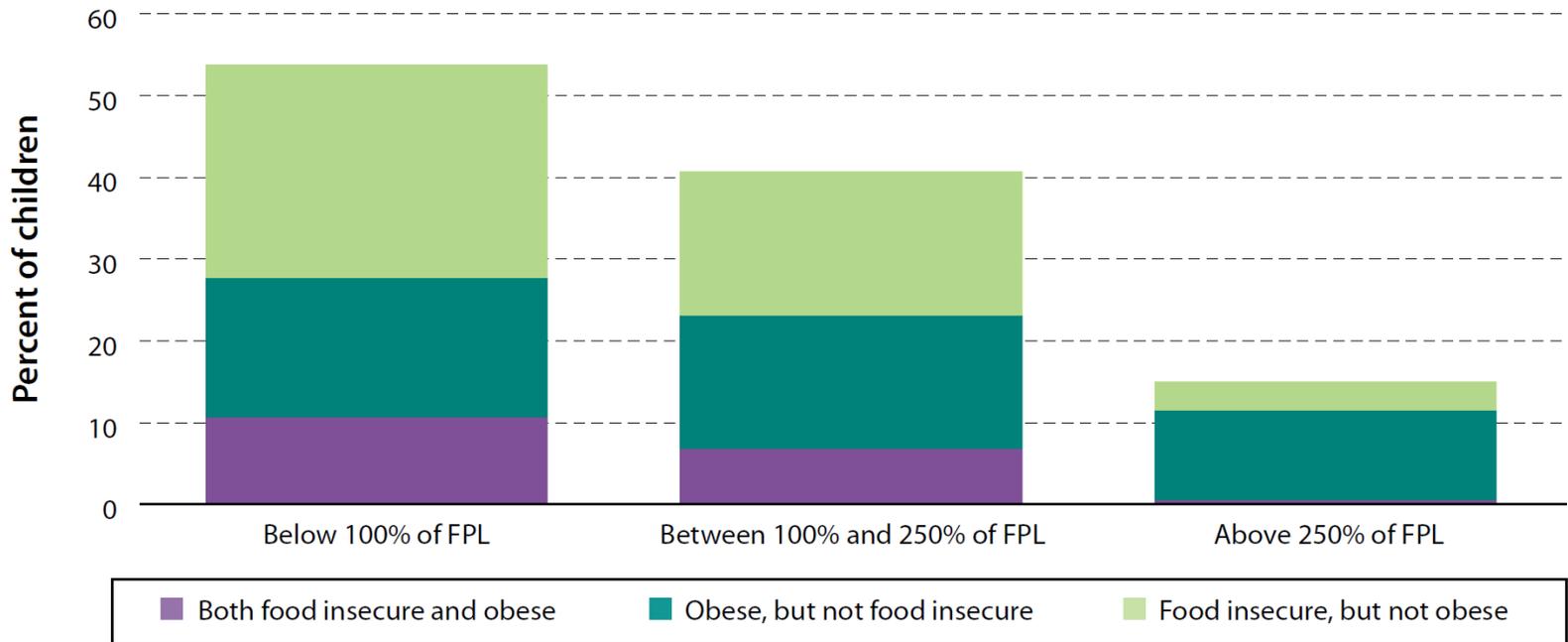


Source: Case, Lubotsky and Paxon (2002).

FIGURE 6.

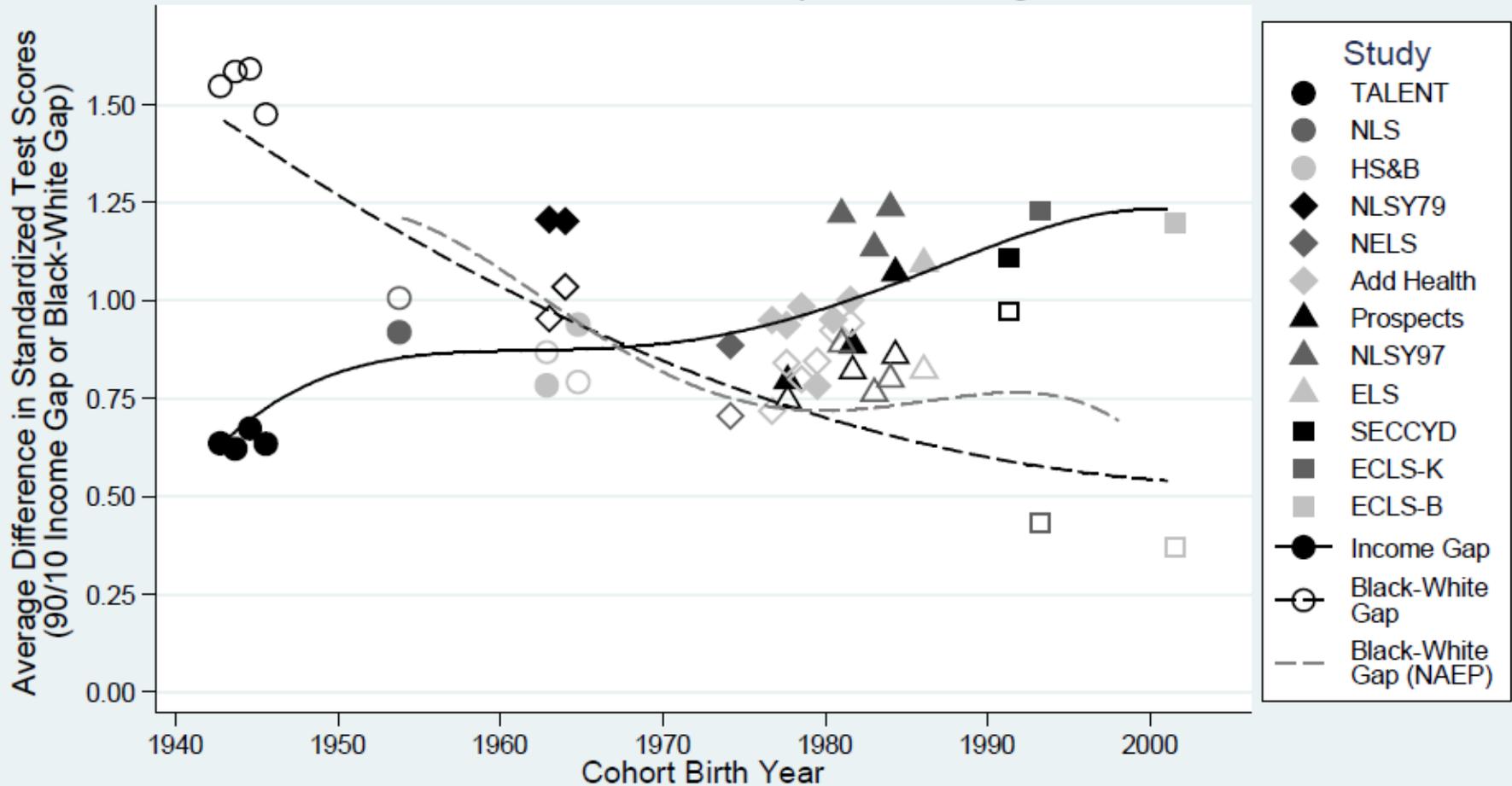
Child Food Insecurity and Obesity Rates, by Income Relative to the Federal Poverty Level (FPL)

Children in families living below 250 percent of the FPL are much more likely to struggle with food insecurity and obesity than are their higher-income peers.



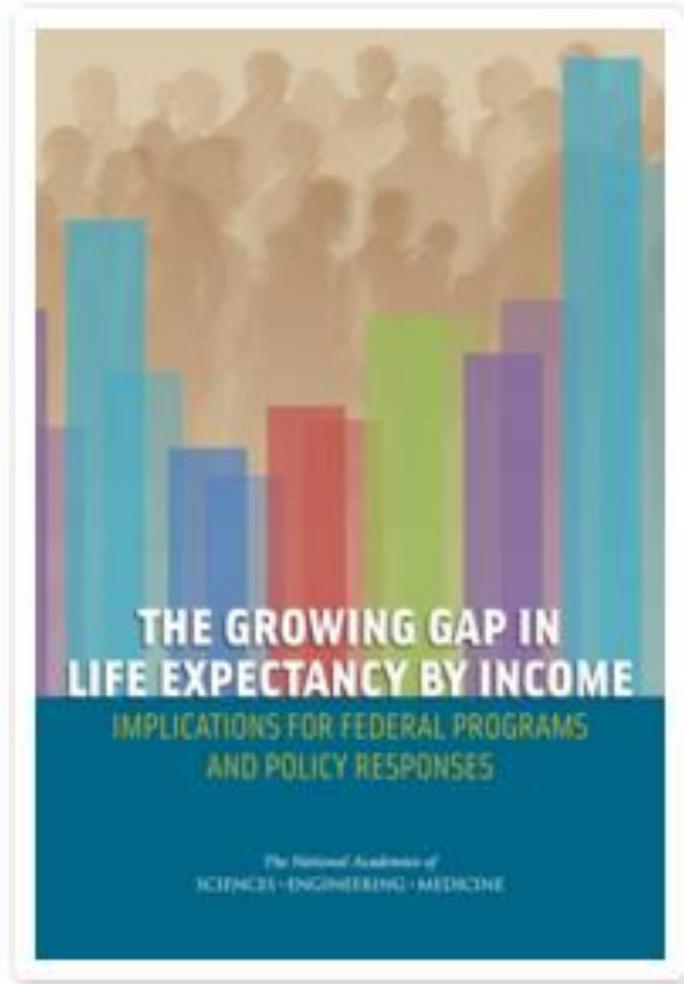
Racial inequalities are decreasing while income inequalities are increasing (in education)

Trends in Income and Black-White Gaps in Reading, 1943-2001 Cohorts



Source: Sean Reardon (Stanford) "The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations" 2011

Inequalities in mortality



- National Academy of Sciences
- Demographers
- Economists

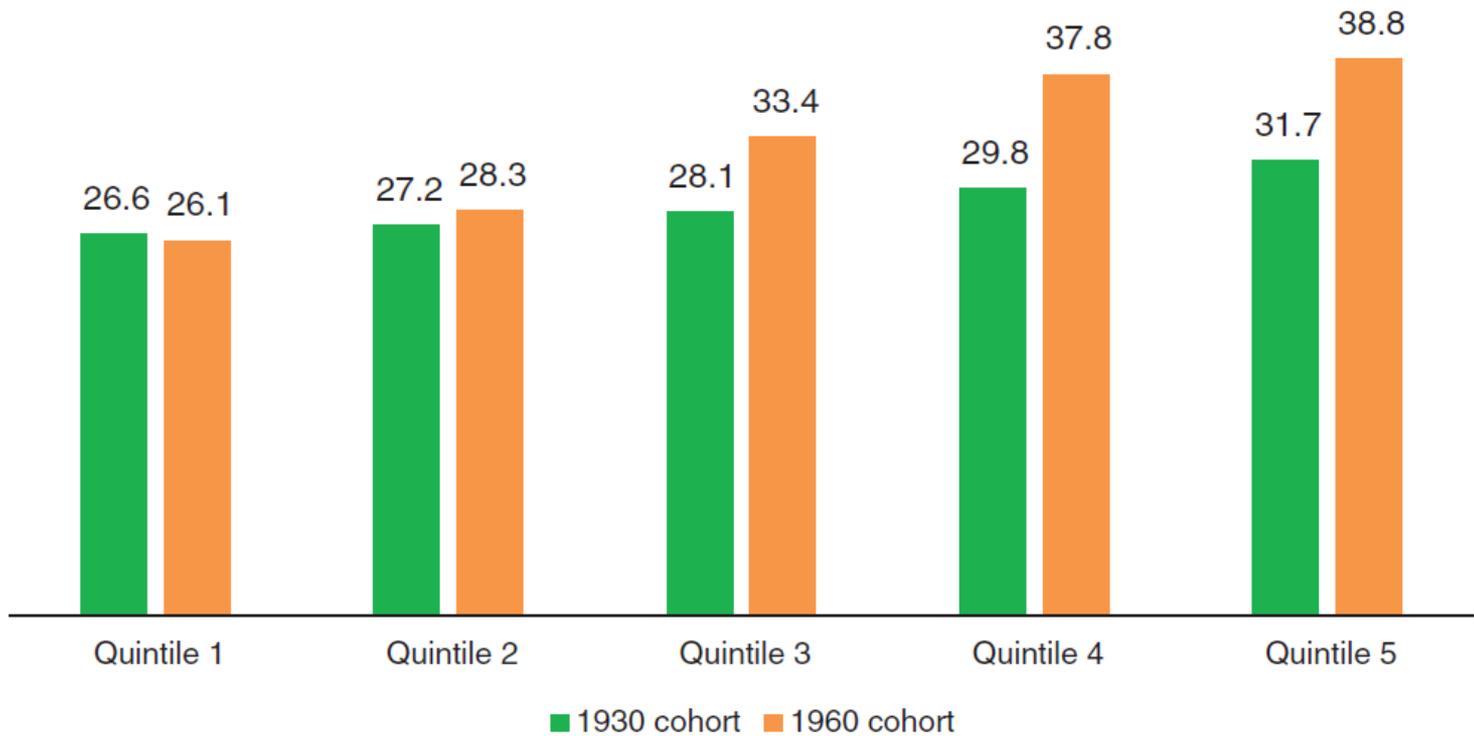
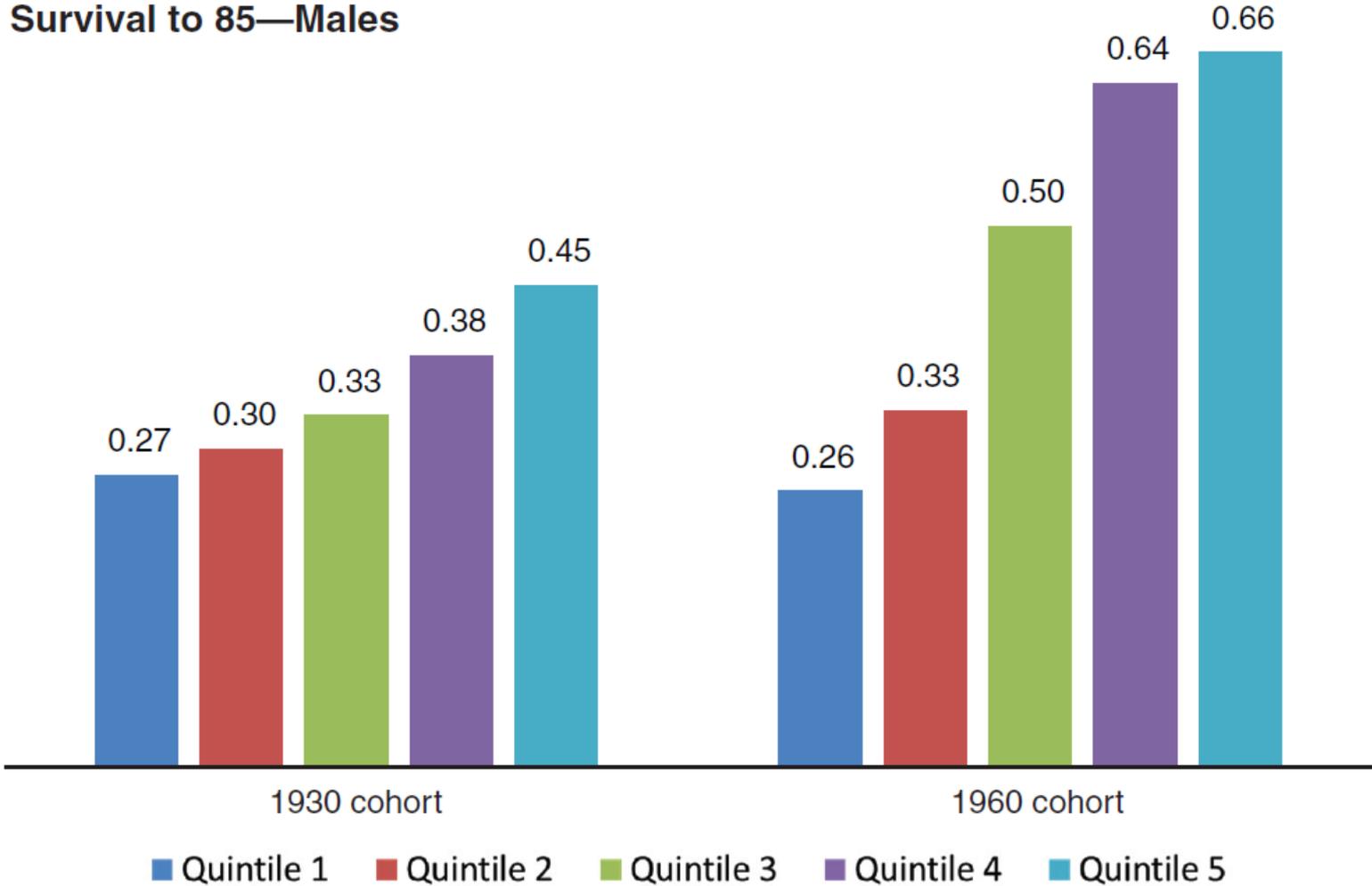


FIGURE S-1 Estimated and projected life expectancy at age 50 for males born in 1930 and 1960, by income quintile.

SOURCE: Committee generated from Health and Retirement Study data.

Survival to 85—Males



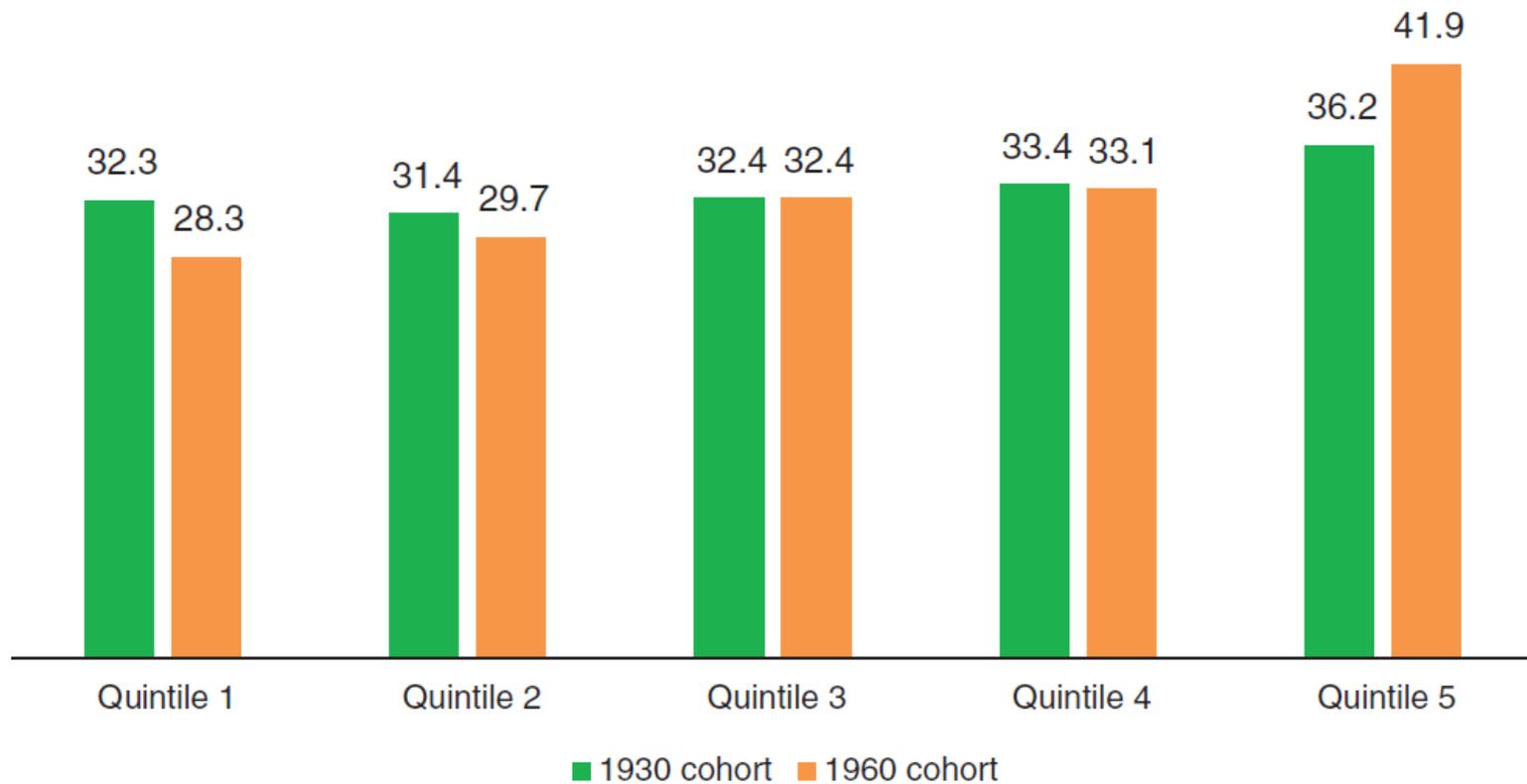
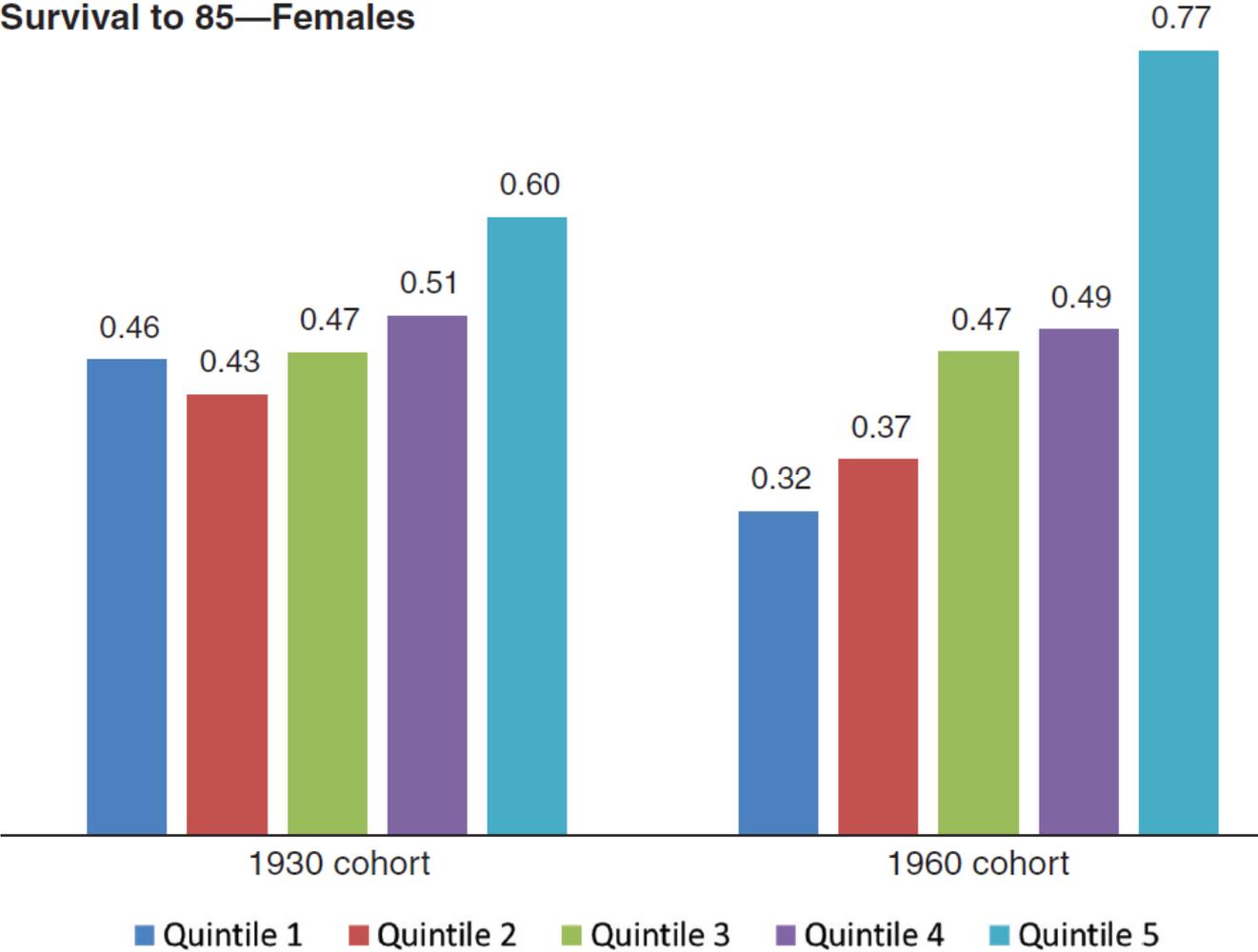


FIGURE S-2 Estimated and projected life expectancy at age 50 for females born in 1930 and 1960, by income quintile.

SOURCE: Committee generated from Health and Retirement Study data.

Survival to 85—Females



- Intervening factors such as smoking (higher income folks have reduced smoking more than lower income folks) and obesity explain only about a third of these changes

- The volume (and the Wonkblog summary) focused on the implications for the returns from entitlements:
 - Ex: consider social security as an investment. You pay taxes in, you retire, and you get benefits until you die (and your spouse can retain benefits after you die). Factors affecting the rate of return for low income compared to high income workers
 - Life expectancy (-)
 - Progressivity of formula (+)
 - Marriage (-)

Case and Deaton

Daily chart

Contemplating American mortality, again

Jan 29th 2016, 16:01 BY THE DATA TEAM



A slight reprieve

Deaths per 100,000 for US non-Hispanic whites
Aged 45-54

Age-adjusted
mortality rate



HEALTH

Death Rates Rising for Middle-Aged White Americans, Study Finds

By GINA KOLATA NOV. 2, 2015

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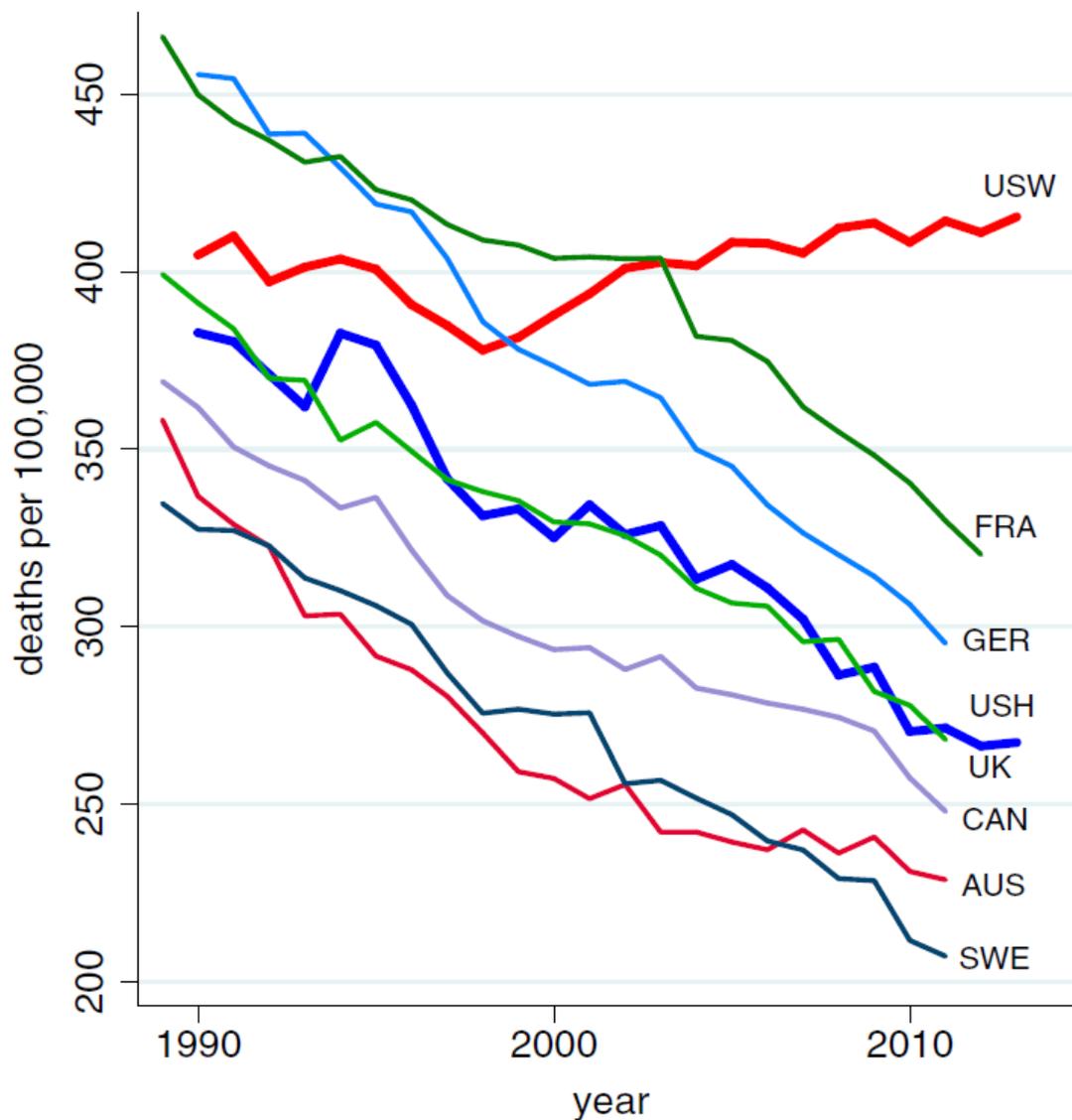
Angus Deaton with his wife, Anne Case, right, last month after he won the 2015 Nobel Memorial Prize in Economic Science. Together, they wrote a study analyzing mortality rates.

Ben Solomon for The New York Times

Something startling is happening to middle-aged white Americans. Unlike every other age group, unlike every other racial and ethnic group, unlike their counterparts in other rich countries, death rates in this group have been rising, not falling.

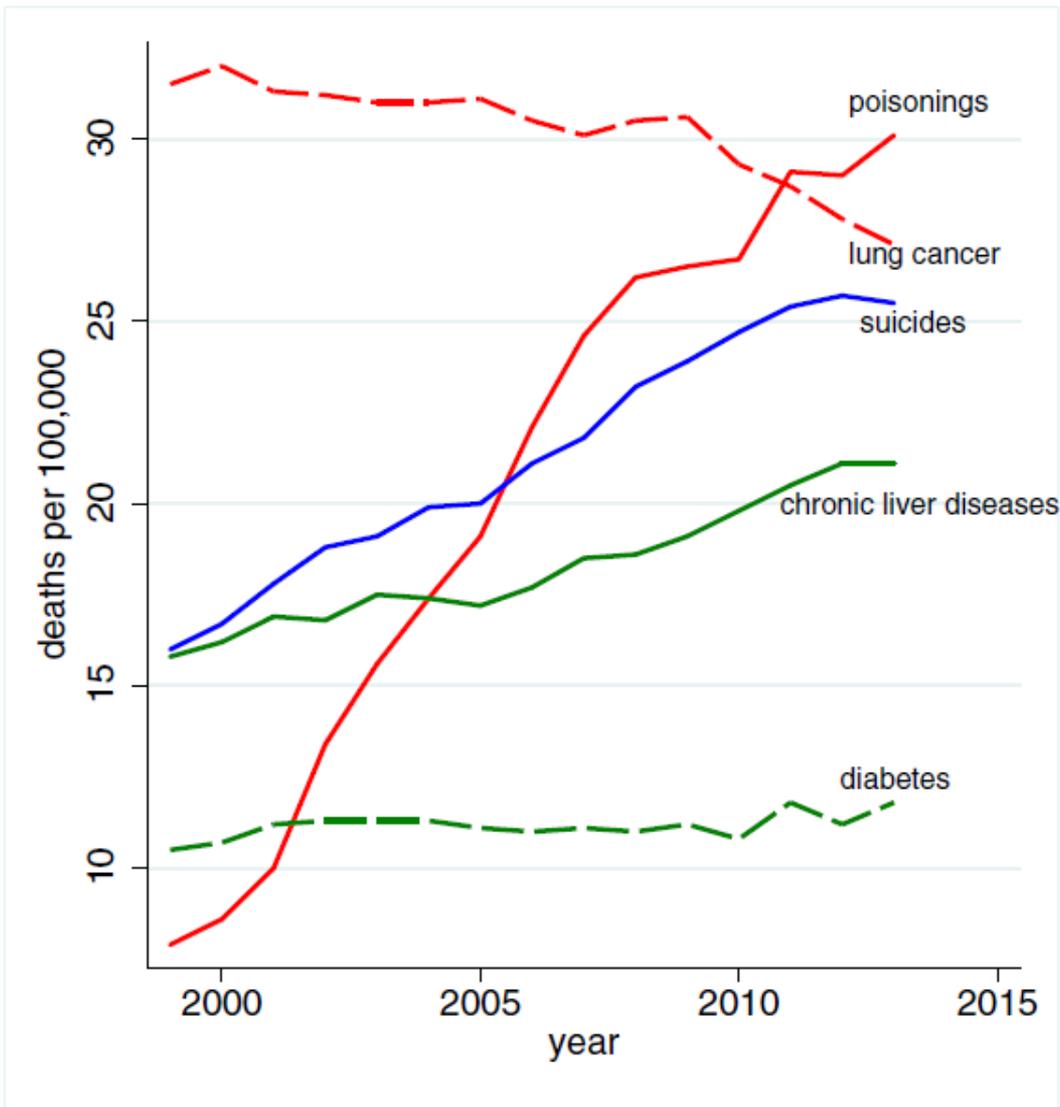
That finding was reported Monday by two Princeton economists, Angus Deaton, who last month [won the 2015 Nobel Memorial Prize in Economic Science](#), and Anne Case. Analyzing health and mortality data from the Centers for Disease Control and Prevention and from other sources, they concluded that rising annual death rates among this group are being driven not by the big killers like heart disease and [diabetes](#) but by an

- Mortality vs morbidity
- Morbidity: state of disease; self-reported health and mental health, pain, difficulties with activities of daily living



The turnaround
in mortality is
limited to:
Midlife (45-54)
White,
nonhispanics

Fig. 1. All-cause mortality, ages 45–54 for US White non-Hispanics (USW), US Hispanics (USH), and six comparison countries: France (FRA), Germany (GER), the United Kingdom (UK), Canada (CAN), Australia (AUS), and Sweden (SWE).



Gains largest for poisonings and suicide

(patterns similar for males and females)

Fig. 2. Mortality by cause, white non-Hispanics ages 45–54.

Table 1. Changes in mortality rates 2013–1999, ages 45–54 (2013 mortality rates)

	All-cause mortality	All external causes	Poisonings	Intentional self-harm	Transport accidents	Chronic liver cirrhosis
White non-Hispanics (WNH)	33.9 (415.4)	32.8 (84.4)	22.2 (30.1)	9.5 (25.5)	−0.9 (13.9)	5.3 (21.1)
Black non-Hispanics	−214.8 (581.9)	−6.0 (68.0)	3.7 (21.8)	0.9 (6.6)	−4.3 (14.6)	−9.5 (13.5)
Hispanics	−63.6 (269.6)	−2.9 (43.6)	4.3 (14.4)	0.2 (7.3)	−4.9 (10.0)	−3.5 (23.1)
WNH by education class						
1. Less than high school or HS degree only	134.4 (735.8)	68.7 (147.7)	44.3 (58.0)	17.0 (38.8)	1.77 (24.2)	12.2 (38.9)
2. Some college, no BA	−3.33 (287.8)	18.9 (59.9)	14.6 (20.6)	6.03 (19.6)	−1.90 (9.96)	3.03 (14.9)
3. BA degree or more	−57.0 (178.1)	3.57 (36.8)	4.64 (8.08)	3.32 (16.2)	−3.63 (5.98)	−0.77 (6.98)
Ratios of rates groups 1–3						
1999	2.6	2.4	4.0	1.7	2.3	3.4
2013	4.1	4.0	7.2	2.4	4.0	5.6

Not only whites but also tilted toward those with lower education levels (≤ 12 years of education)

Morbidity also increasing, but they do not present comparisons to other groups.

Not much speculation in the paper about structural sources for these patterns.

Family Income, or something else?

- Difficult evaluation problem
- Lower income correlated with worse neighborhoods, schools, environmental inputs (and many other things)
- Most likely the bias is positive (observational model would find “too large” an effect of income)
- The question we want to ask is how would outcomes change if we exogenously gave a family more income

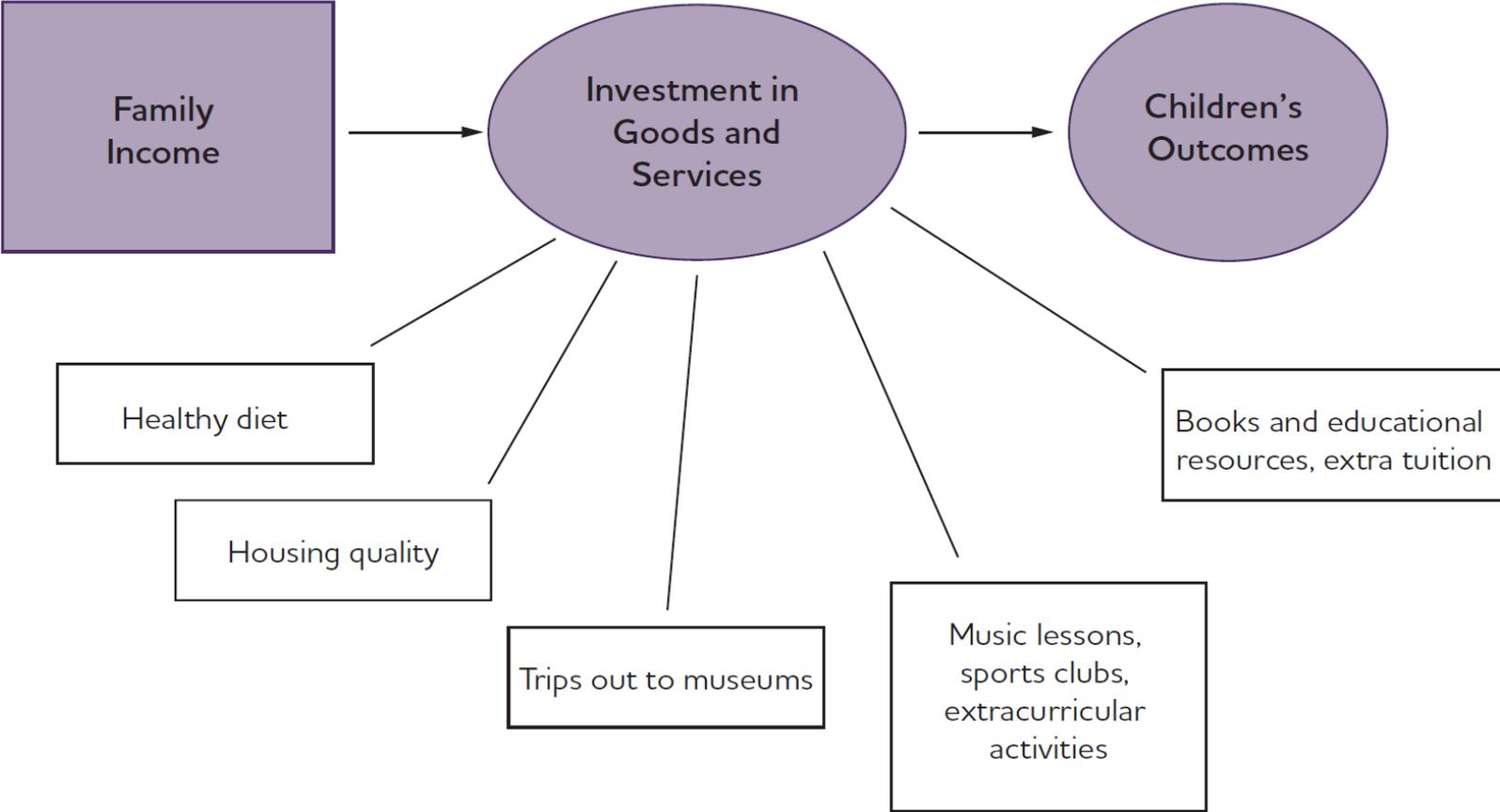
- If these effects are causal, then there are significant benefits (to government) to reducing poverty
- Expenditures on poverty reduction can be viewed as public or social investments

Why might income matter?

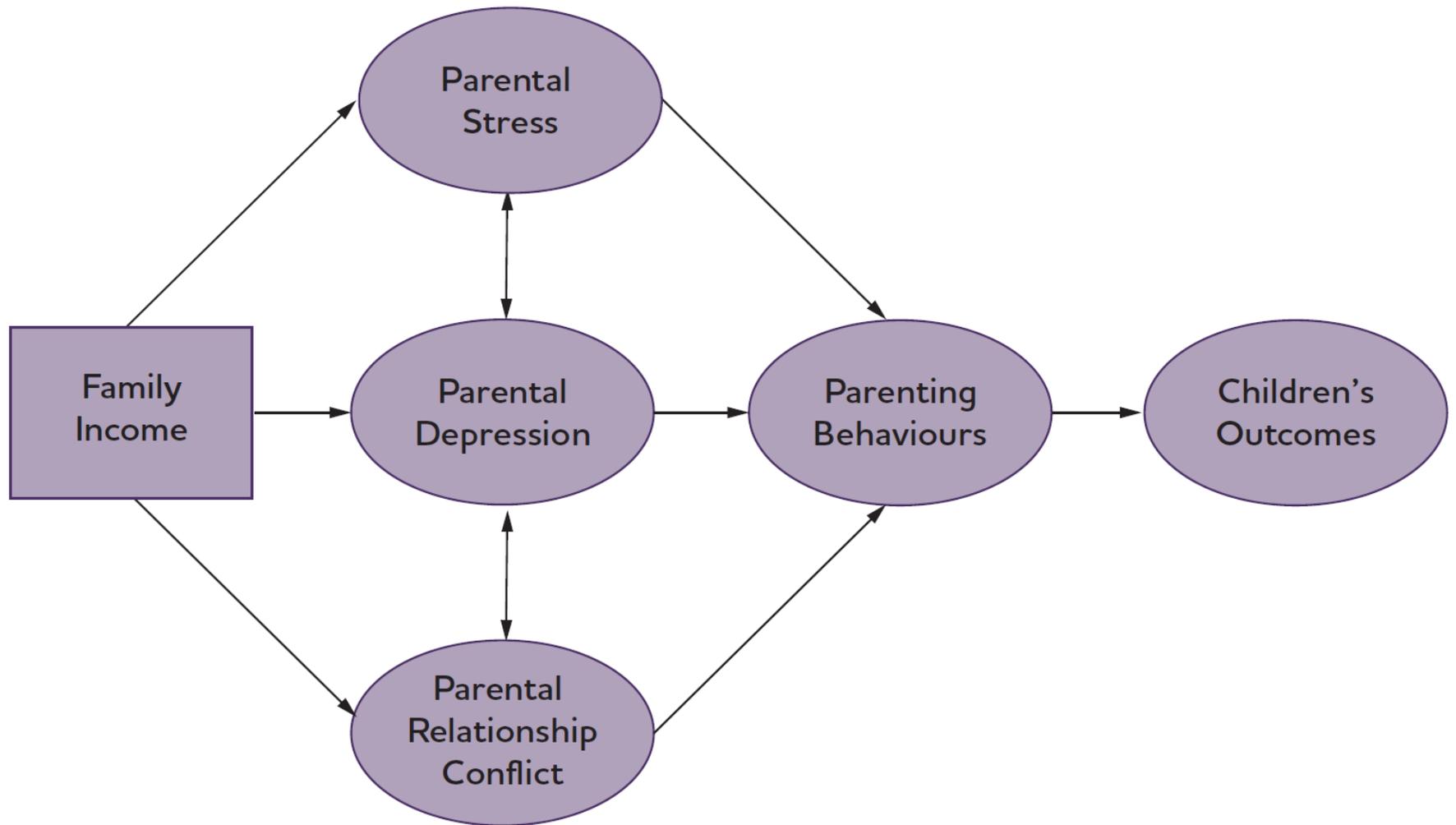
- Family Stress: stress and anxiety caused by low income (including decision making abilities)
- Investment: parents' ability to invest in goods and services that further child development
 - Gary Becker “theory of the family”: Child quality is a normal good, so with higher income a family provides more “inputs “ (nutrition, home learning environments, quality childcare, safe neighborhood, university education, etc.)

Figure 2: The Investment Model and the Family Stress Model

The Investment Model



The Family Stress Model



Dynamics and timing

- Child and adult health, cognitive and economic outcomes are the result of a long process
- Poverty at key development points (even during pre-natal period) can have impacts in adulthood → big area of research, understanding the critical periods

What approaches have been used to try to identify causal effect?

1. Longitudinal estimators (child fixed effects, family fixed effects, sibling fixed effects)
 - Potential problem is why were circumstances different for two children? Or for one child at two points in time? Also measurement error a problem due to netting out the permanent income effects
2. Policy experiments that change income
 - EITC, Food Stamps, other child tax benefits (Canada, UK, Norway)
 - It is rare to find a policy change that affects only income. EX: The EITC affects income but also work

3. Other natural experiments

- Casino development longitudinal study
- Resource dependent areas and cycles in resources prices: coal, oil, fracking, Norway oil discovery

4. Randomized experiments

- Welfare reform in the U.S.
- Conditional cash transfers

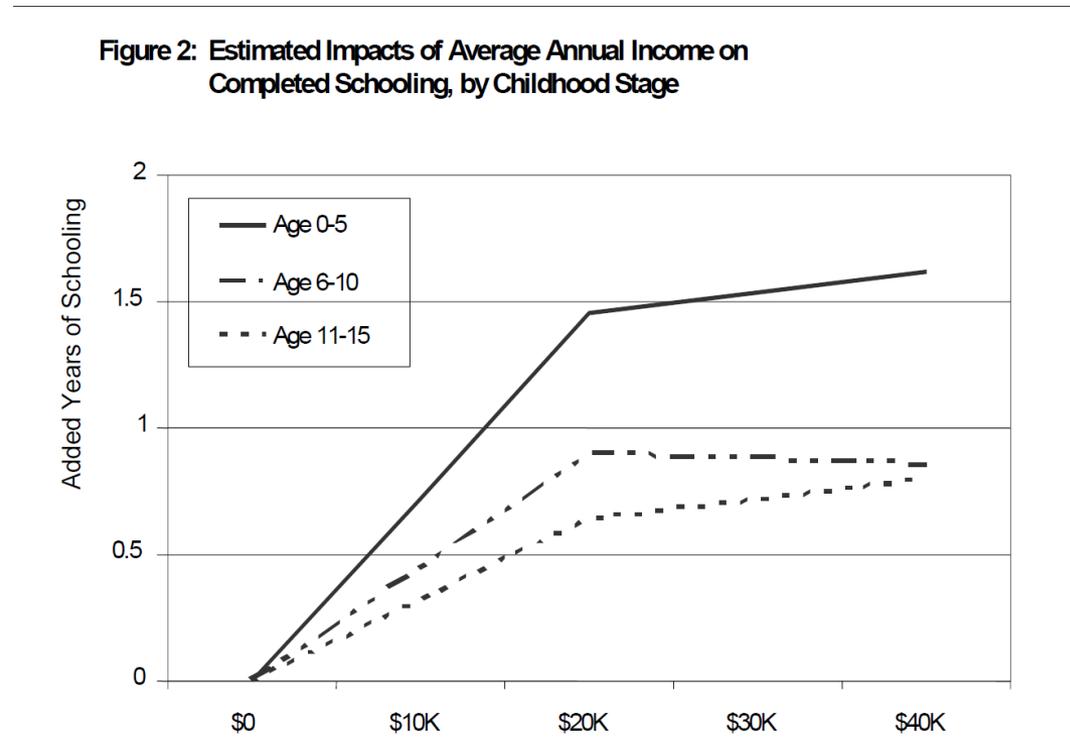
[again, rare to isolate income change without other changes]

General findings

- Income improves outcomes, effects are nonlinear and much higher at the bottom of the income distribution

Longitudinal analysis
Family Fixed effects
Identified off of within
family variation in
income for children
and across the life
course

Figure from Duncan “Geary
Lecture”



General findings

- Earlier in life may be more influential? Answer is not so clear. May depend a lot on the type of outcomes looked at
- Might matter who gets the money (mom is best)
- Next pages of slides are from a recent review of studies on this topic (“Does Money Affect Children’s Outcomes? A Systematic Review”, Joseph Roundtree Foundation.)

Table 1: Study results by country and evidence type

Studies by country and method	Positive results	Mixed results	No significant results	Total
<i>Canada</i>		1	1	2
– Exogenous variation		1		1
– Fixed effects			1	1
<i>Mexico</i>	1			1
– Randomised controlled trials	1			1
<i>Norway</i>	2	1	1	4
– Natural experiments	1		1	2
– Exogenous variation	1	1		2
<i>US</i>	17	4	1	22
– Randomised controlled trials	3	1		4
– Natural experiments	5		1	6
– Exogenous variation	1	1		2
– Fixed effects	8	2		10
<i>US and Canada</i>	1			1
– Randomised controlled trials	1			1
<i>UK</i>	2		2	4
– Natural experiments	1			1
– Fixed effects	1		2	3
<i>All countries</i>				
– Randomised controlled trials	5	1		6
– Natural experiments	7		2	9
– Exogenous variation	2	3		5
– Fixed effects	9	2	3	14
TOTAL	23	6	5	34

Table 2: Results by children's outcomes

Nature of outcomes	Studies including outcome	Positive	No effect
<i>Children's outcomes</i>			
Cognitive development and school achievement	21	16	5
Social, behavioural and emotional development	9	7	2
Physical health	8	5	3
Subjective well-being and social inclusion	0	n/a	n/a
Future earnings	1	1	n/a
<i>Mediating outcomes</i>			
Family expenditure on children's items	2	1	1
Financial stress and material hardship	3	2	1
The home learning environment	4	3	1
Maternal physical health	3	2	1
Maternal mental health	4	4	0
Parenting and parental behaviours	3	2	1
Total studies included*		34	

*Some studies measured more than one outcome.

Table 3: Effect sizes for cognitive development and educational achievement (standard deviation change linked to US\$1,000 in 2000 prices)

	RCTs				Natural experiments		Other exogenous variation (IV)		Fixed effects		
	Gennetian and Miller (2002)	Duncan et al. (2011)	Fernald et al. (2008)	Clark-Kauffman et al. (2003)	Akee et al. (2010)	Dahl and Lochner (2012)	Black et al. (2012)	Milligan and Stabile (2011)	Blau (1999)	Votruba-Drzal (2003)	Votruba-Drzal (2006)
<i>Relevant population</i>	<i>Low income US</i>	<i>Low income US and Canada</i>	<i>Low income Mexico</i>	<i>Low income US</i>	<i>Low income Native American US</i>	<i>Low income US</i>	<i>Low/middle income Norway</i>	<i>Low education (max high school) Canada</i>	<i>All income groups US</i>	<i>All income groups US</i>	<i>All income groups US</i>
Child achievement/ Performance in school	0.12 (0.23 boys)	0.06		0.05			0.18		0.02		
Maths						0.06		0.07 (0.23 boys)	0.01		0.02
Reading						0.05			0.01		0.02
Peabody PPVT			0.21					0.37 (boys)	0.01		
Long-term memory			0.14								
Short-term memory			0.15								
Visual integration			0.10								
Completed schooling (years)					0.10						0.01

Notes: Dahl and Lochner's reading figure is an average of effect size for reading recognition (0.04) and reading comprehension (0.06).

Duncan et al. (1998) do not give standard deviation for completed schooling so result not included. Results from Løken (2012) are in a form difficult to adjust to this format.

**Table 6: Effect sizes for maternal depression and home environment
(standard deviation change linked to US\$1,000 in 2000 prices)**

	RCTs	Other exogenous variation	Fixed effects			
	Gennetian and Miller (2002)	Milligan and Stabile (2011)	Dearing et <i>al.</i> (2004)	Blau (1999)	Votruba- Drzal (2003)	Dearing and Taylor (2007)
<i>Relevant population</i>	<i>Low income US</i>	<i>All income groups Canada</i>	<i>All income groups US</i>	<i>All income groups US</i>	<i>All income groups US</i>	<i>Low income US</i>
Maternal depression	0.15	0.10 (0.20 low ed only)	0.01 (0.06 for chronically poor)			
Home environment				0.02	0.01 (0.02 lowest income)	
Physical environment						0.05 (low income)
Psychosocial environment						0.06 (low income)
Learning materials						0.20 (low income, low HE)
Responsiveness						0.14 (low income, low HE)
Cognitive stimulation						0.06 (low income, low HE)

The New Biology of Poverty: SES, Stress and Cortisol

- It has been known for some time that socio-economic status (SES) is correlated with self-reported stress and the stress-hormone cortisol.
- Cortisol is released in response to both psychological and physiological strain. Chronic elevations of cortisol can lead to dysfunction in metabolic and immune systems and this stress may accelerate cell aging

- Exciting new research using strong quasi-experimental designs suggest a causal linkage:
 - Conditional cash transfers (Oportunidades in rural Mexico) led to reduction in cortisol among children 2-6 (Fernald and Gunnar 2009)
 - Negative rainfall shocks lead to higher cortisol in Kenya (Haushofer et al 2012)
 - Expansion of in-work benefits (EITC) lowers risky biomarkers in mothers (Evans and Garthwaite 2011)
 - Prenatal maternal cortisol negatively affects the health, cognition, and education of children (Aizer, Stroud and Buka 2009)
- This suggests that increases in income – through government policy – can reduce cortisol.

Poverty and Decision Making

- Lower income individuals are more likely to
 - Make use of expensive payday loans and check-cashing services
 - Play lotteries,
 - Repeatedly borrow at high interest rates
- Theories and explanations:
 - poor rationally adapt and make optimal decisions for their economic environment
 - “culture of poverty” shapes their preferences and makes them more prone to mistakes
 - Time scarcity impedes cognitive functioning, which in turn may lead to decision-making errors and myopic behavior (Mullainathan and Shafir 2013, pg. 4)

Time scarcity – Mullainathan & Shafir

- Three types of poverty
 - Money poverty
 - Time poverty
 - Bandwidth poverty: attention shortage that is fed by the other two
- “If I’m focused on the immediate deadline, I don’t have the cognitive resources to spend on mundane tasks or later deadlines. If I’m short on money, I can’t stop thinking about today’s expenses — never mind those in the future. In both cases, I end up making decisions that leave me worse off because I lack the ability to focus properly on anything other than what’s staring me in the face right now, at this exact moment.”
- “The poor are under a deadline that never lifts, pressure that can’t be relieved.”
- “If poverty is about time and mental bandwidth as well as money, how does this change how we combat its effects?” Give them programs that don’t use a lot of bandwidth

Poverty and Economic Decision-Making: Evidence from Changes in Financial Resources at Payday, Carvalho et al AER 2016

- Recent field study surveyed about 4,000 people with <\$40K. Randomly surveyed either before payday or after payday
- Collected measures of cognitive function and administered incentivized risk choice and we incentivized (monetary and non-monetary) intertemporal choice tasks.
- Identify effects of sharp but short-lived variations in financial resources

Findings:

- Before-payday group more present-biased (making intertemporal choices about monetary rewards) → about liquidity?
- Before-payday and after-payday groups make similar risk choices
- participants surveyed before and after payday performed similarly on a number of cognitive function tasks

Handout: Labor Supply and Welfare

Hilary Hoynes

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PP290

MOTIVATION

- 1) Labor supply responses to taxes and transfers are of fundamental importance for policy
- 2) Labor supply responses along many dimensions:
 - (a) Intensive margin: hours of work on the job, intensity of work, occupational choice [including education]
 - (b) Extensive margin: whether to work or not [e.g., retirement and migration decisions]
- 3) Reported earnings for tax purposes can also vary due to (a) tax avoidance [legal tax minimization], (b) tax evasion [illegal under-reporting]
- 4) Different responses in short-run and long-run: long-run response most important for policy but hardest to estimate

STATIC LABOR SUPPLY WITH LINEAR BUDGET CONSTRAINT

Individual faces exogenous deterministic wage (w) and non-labor income (N). Utility is a function of leisure (ℓ) and consumption (c). The choice problem is:

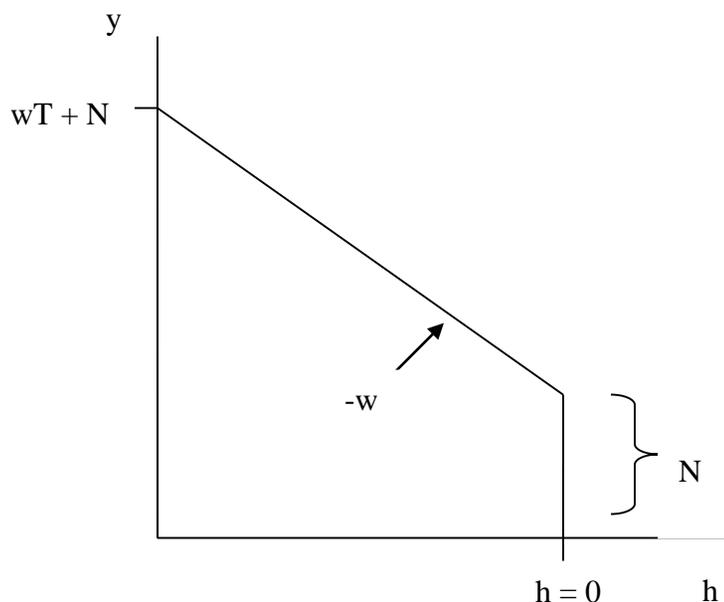
$$\text{Maximize } U(\ell, y) \quad \text{subject to} \quad \begin{aligned} wh + N &= y \\ h &= T - \ell \end{aligned}$$

Where:

- w = hourly wage
- h = hours worked (ℓ =leisure)
- T = time endowment
- N = non-labor income

(Usual) Assumptions:

- Increasing in ℓ and y (decreasing in h)
- Leisure and consumption are normal goods



Deriving budget constraint:

$$y = wh + N, \quad h = T - \ell$$

$$y = w(T - \ell) + N$$

$$y = (wT + N) - (w\ell)$$

intercept = $wT + N$ (full income at full hours)

slope = $-w$ (loss in income of one more hour of leisure)

Therefore indifference curves have usual shape. We are typically interested in studying the determinants of hours worked but we model the determinants of leisure and then translate back to hours.

Intensive Margin (=hour of work if maximizing to work at all)

Maximization is at tangency between budget set and indifference curves:

$$wU_y + U_h = 0$$
$$w = -\frac{U_h}{U_y}$$

Extensive Margin (is it utility maximizing to work at all?)

Define w^* = reservation wage

$$= -\frac{U_h}{U_y}, \text{ evaluated at } h=0 \text{ (slope of the indifference curve at } h=0)$$

$w > w^*$ then work [$h > 0$]

$w < w^*$ then no work [$h = 0$], equivalent to $h^* < 0$

Comparative Statics for Intensive Margin (or what happens when N or w changes):

Basic price effect (Uncompensated elasticity of labor supply)

Sign is indeterminate
substitution effect > 0

$$\varepsilon^u = \frac{w}{h} \frac{\partial h}{\partial w}$$

income effect < 0 (increase in wage means more income [holding labor supply constant] \rightarrow less work if leisure normal)

Generally for low income pop we think substitution effect dominates

Income effect parameter $\eta = w \frac{\partial h}{\partial N}$

Assuming leisure is a normal good, then negative

Compensated elasticity of labor supply

Always positive

Comparative Statics for Extensive Margin (or what happens when N or w changes):

Wage effect (work if $w > w^*$): participation wage elasticity ($dP/dw^*w/P$)

POSITIVE

(no income effect)

Increase in wage does not affect reservation wage

Income elasticity of participation ($dP/dN^*N/P$)

NEGATIVE

Increase in income leads to steeper indiff curve

Assuming leisure is a normal good, then negative

Mechanics of changes in the budget set

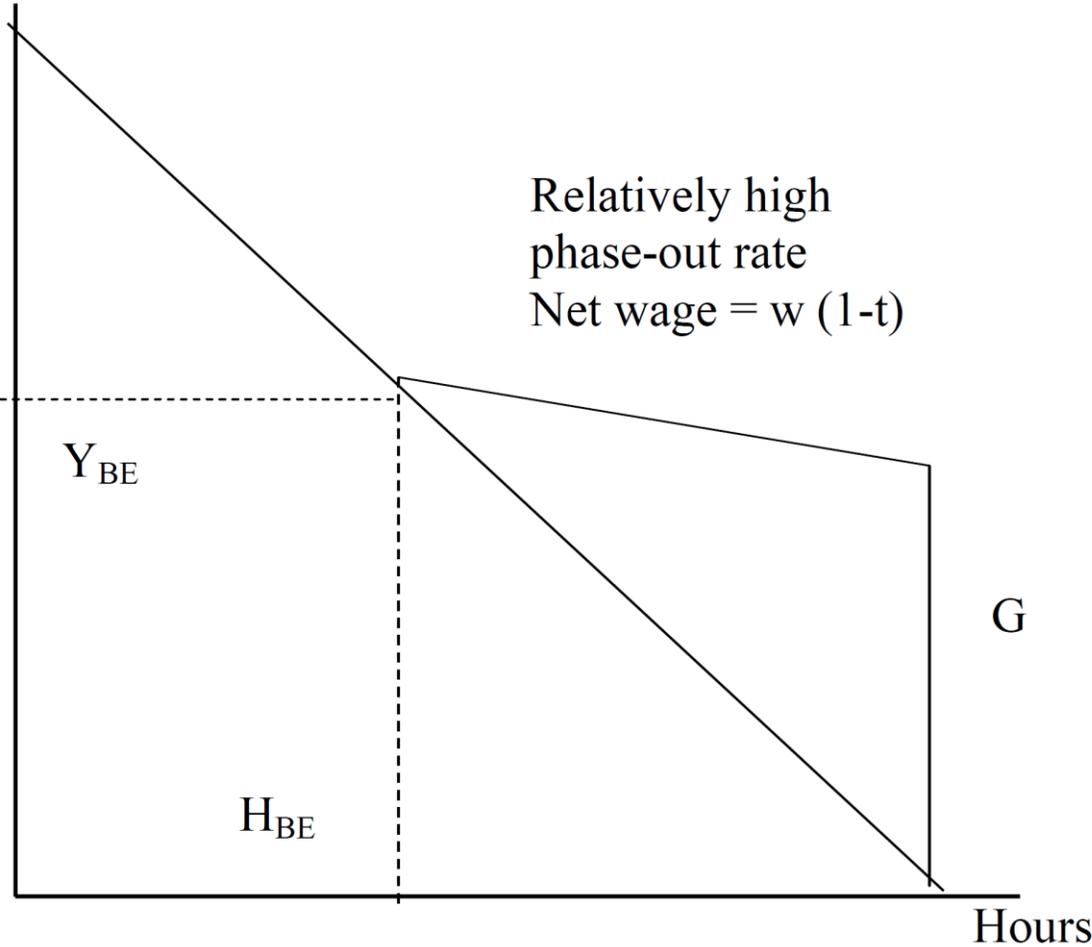
Increases or decreases in the wage

Changes to non-labor income

GO THROUGH THIS.

TRADITIONAL WELFARE AND LABOR SUPPLY

After Tax and
Transfer
Income



$$y = wh + N + B$$

$$B = G - t(wh)$$

$$y = wh + N + G - t(wh)$$

$$y = N + G + w(1-t)h$$

Therefore the slope of the budget set changes from w to $w(1-t)$

Setting actual benefits equal to zero results in the “break-even formula” – the income level where welfare eligibility ends:

$$B = 0 \rightarrow Y_{BE} = \frac{G}{t}$$

Thus, with a guarantee of \$300 and tax rate of 75%, earnings of \$400 reduces the welfare benefit to zero and removes the person from welfare.

Go through mechanics of changes to budget set from change in G or t .

Goal: What is impact of welfare (e.g. G , t) on hours and labor force participation?

	<u>Impact of change in program</u>		
Outcome	$\uparrow G$	$\downarrow t$	Overall Program effect
H_{BE}	+	+	
Y_{BE}	+	+	
Size of welfare program	+	+	
Employment	-	+	-
Hours	-	?	-
		+ for some already on welfare (if sub>inc effects) - for those some breakeven	

Bottom line: income transfer occurs while discouraging work. Increases cost of the transfer relative to the benefit.

The Safety Net

Economics of Out of Work Benefits

Hilary Hoynes

PP290

Outline of lecture

1. Overview of the social safety net
 2. Canonical out of work benefits
 3. [Review] Theory of labor supply
 4. Canonical “Out of work benefits” and labor supply
- [next time: what do we know about the effects of AFDC]

Outline of lecture

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What do we mean by the “social safety net”

- By definition these are “programs” that provide transfers (cash or otherwise) to families
- Social insurance versus public assistance
- Cash versus in kind

Given our focus on poverty, what should be our working definition of the “social safety net”

- Should it be limited to public assistance programs?
- Here is my working definition:
 1. It raises disposable income (cash or in kind) at the lower end of the income distribution [reduces poverty]
 2. Protection responds in times of need (e.g. job loss, unemployment, shock to income), smooth income (and hence consumption)
- In this definition there may be room for more than “programs for the poor” such as
 - Unemployment insurance
 - Disability income
 - Social security

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

	Cash	In Kind
Public Assistance (Means tested)	AFDC/TANF SSI General Assistance EITC Child Tax Credit (refundable)	SNAP WIC School Meals Medicaid Housing programs LIHEAP
Social Insurance	Social Security SSDI Unemployment Ins Workers Comp	Medicare

- Shows favoring of in-kind programs for public assistance programs
- Typically we think that if markets are functioning well, then we should prefer cash (less constrained for recipient → higher utility)
- Paternalism? Impose public's preferences on recipients and prevent recipient from spending \$ on goods that the voter does not think is worthwhile (could stem from view that poverty is the result of "bad" decisions and "bad" preferences)

Social Insurance: Govt

provided insurance against adverse events

- Eligibility does not depend on current needs
- Worker participation is mandatory, “buy” insurance through payroll taxes
- Eligibility triggered by insured event

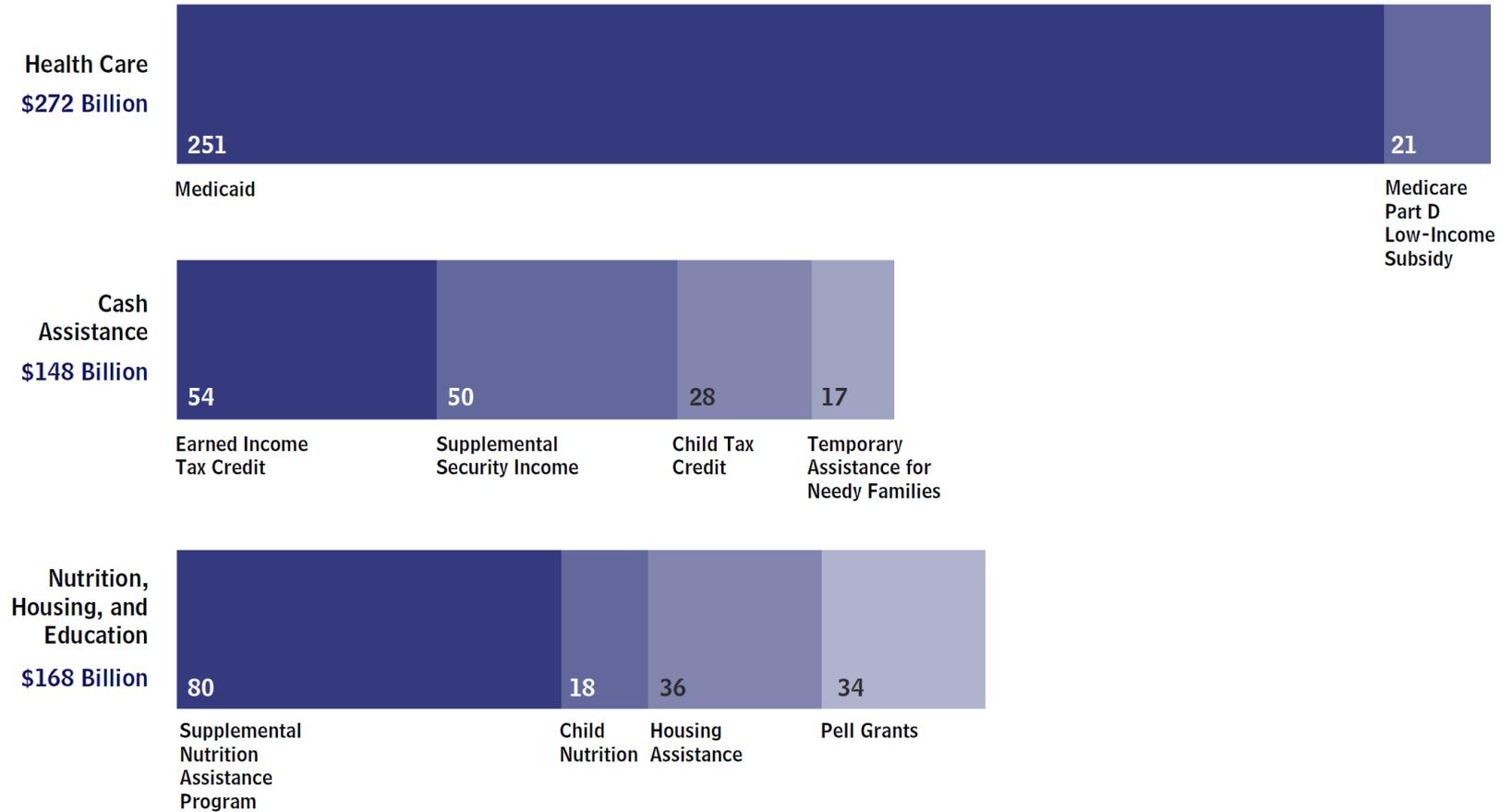
Public Assistance:

- Eligibility depends on current needs
- Benefits “phased out” as income increases
- Eligibility often categorical

Figure 2.

Federal Spending on Selected Means-Tested Programs and Tax Credits, 2012

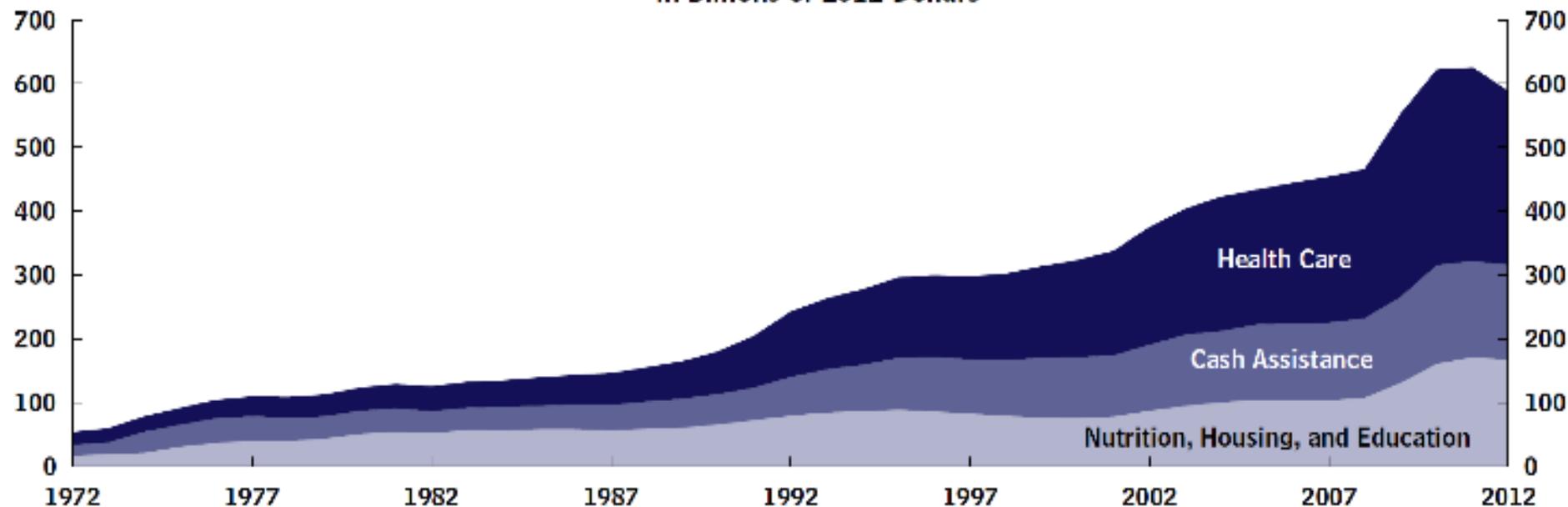
(Billions of dollars)

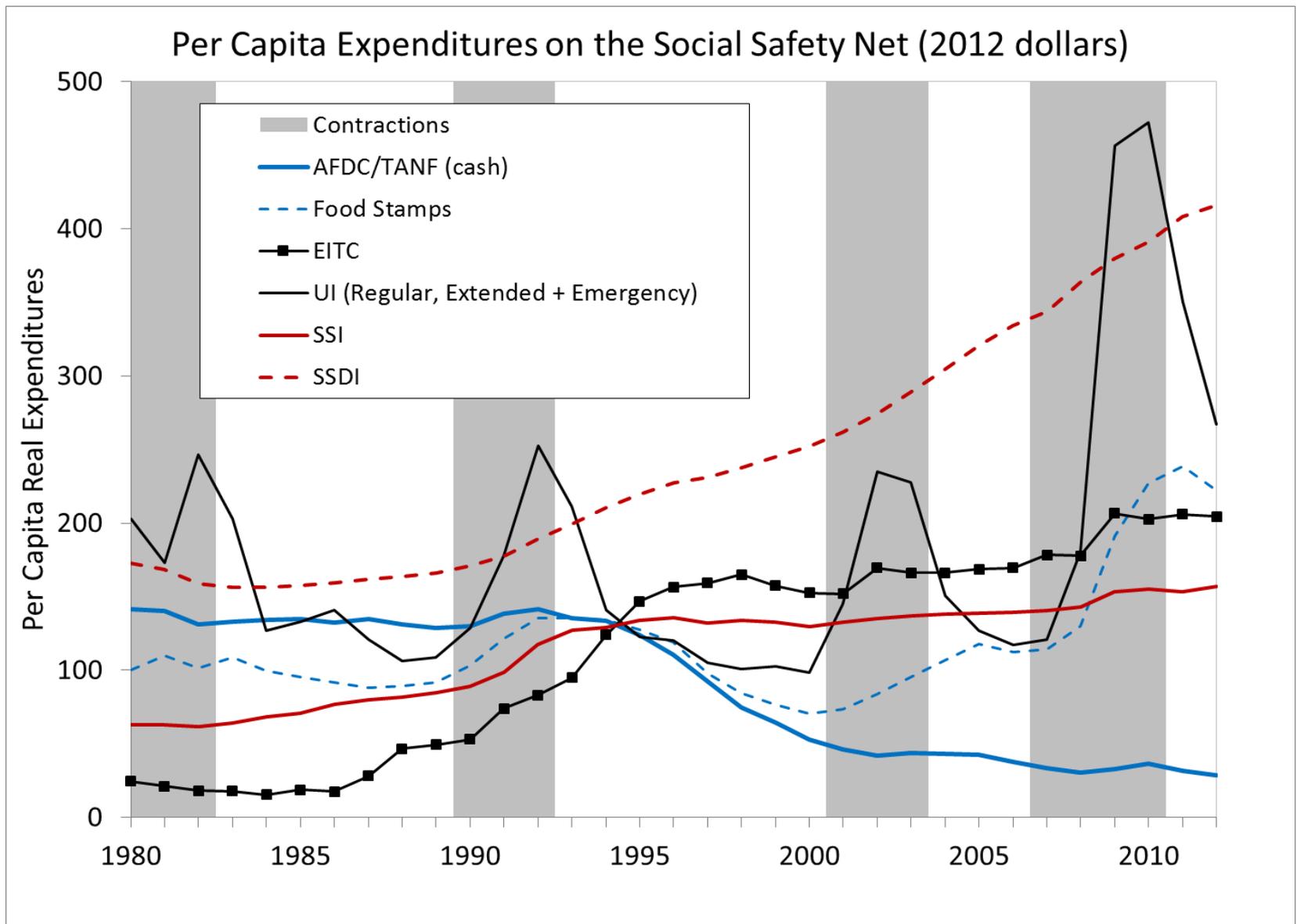


Source: Congressional Budget Office.

Federal Spending on Various Categories of Means-Tested Programs and Tax Credits, 1972 to 2012

In Billions of 2012 Dollars

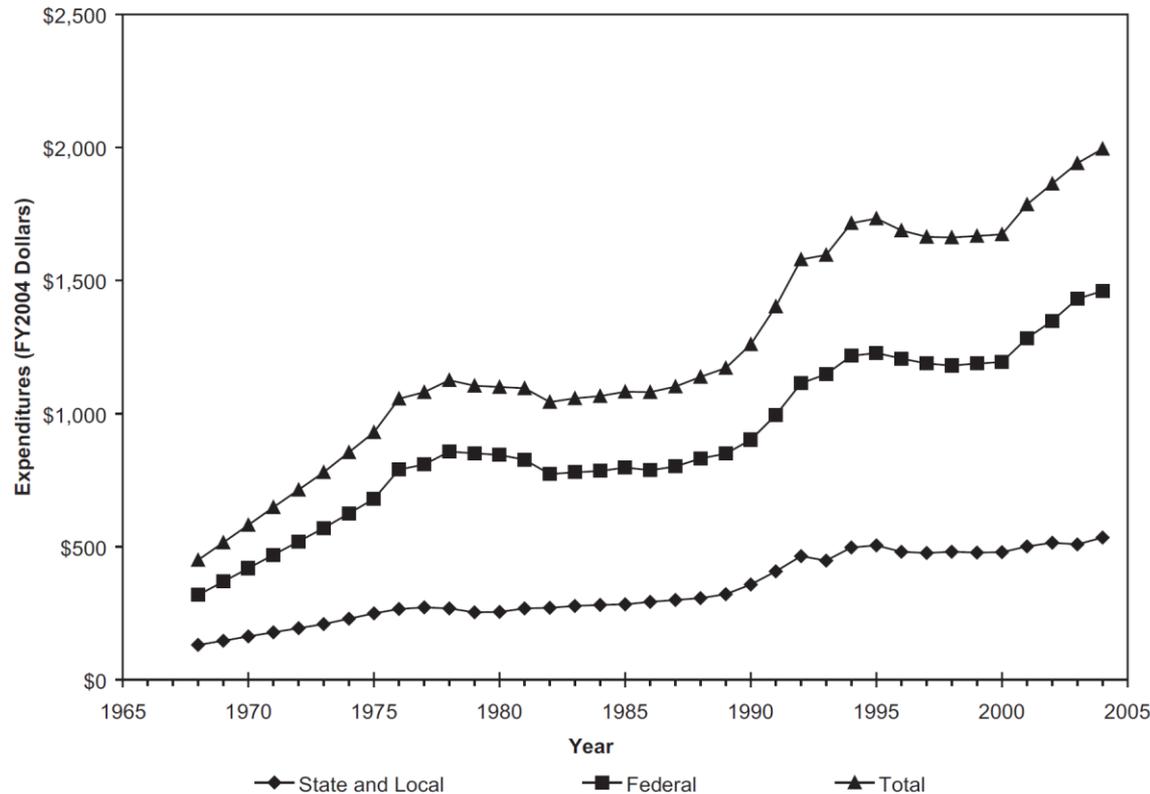




Source: Bitler and Hoynes “The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession,” forthcoming, *Journal of Labor Economics*.

Moffitt *Focus* 2007

80 largest programs, Federal and State Spending



Anti-Poverty spending is increasing.

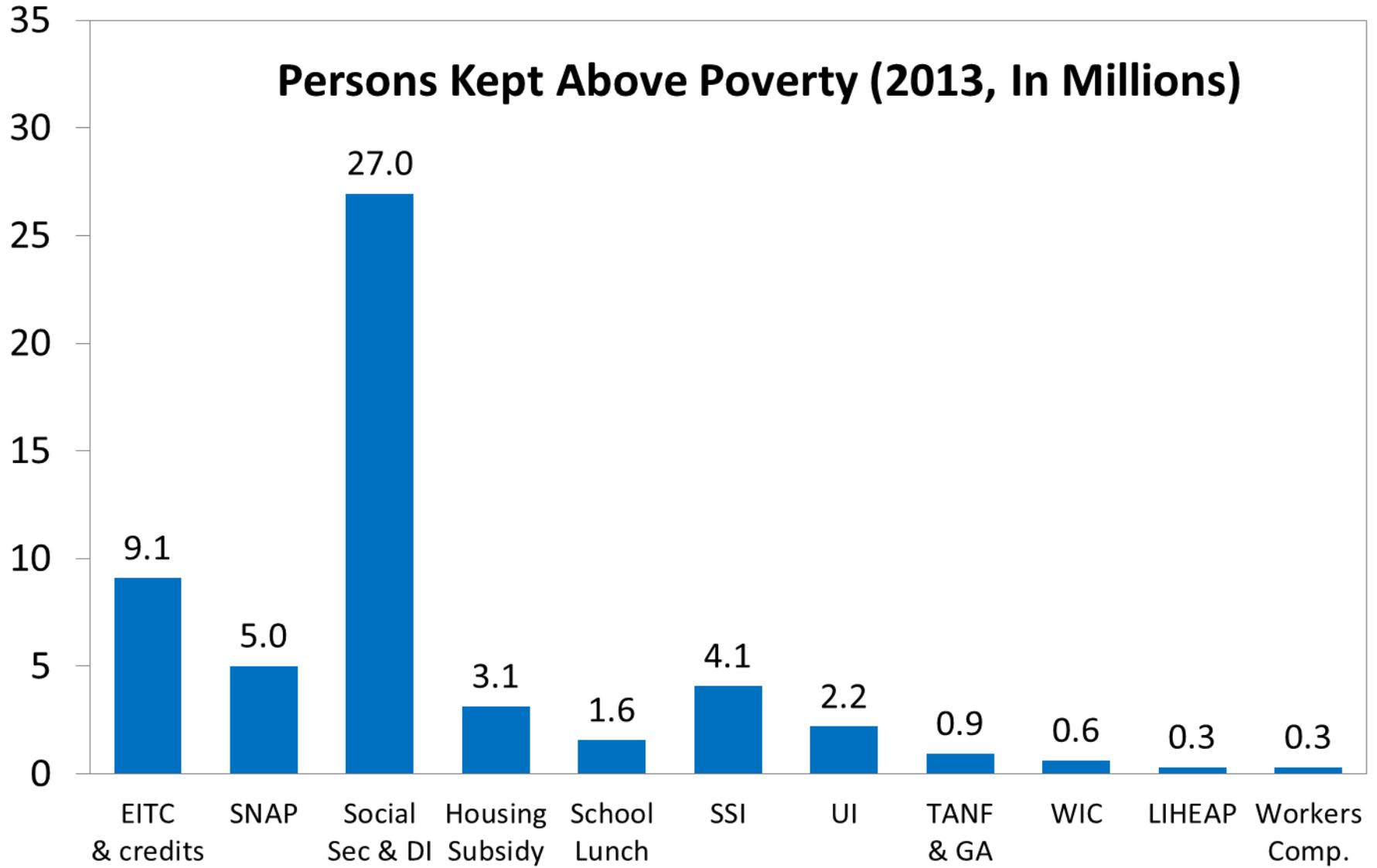
Aggregate masks different trends by program

1990-1996: Growth in EITC, Medicaid
200-2004: Growth in Medicaid, SNAP

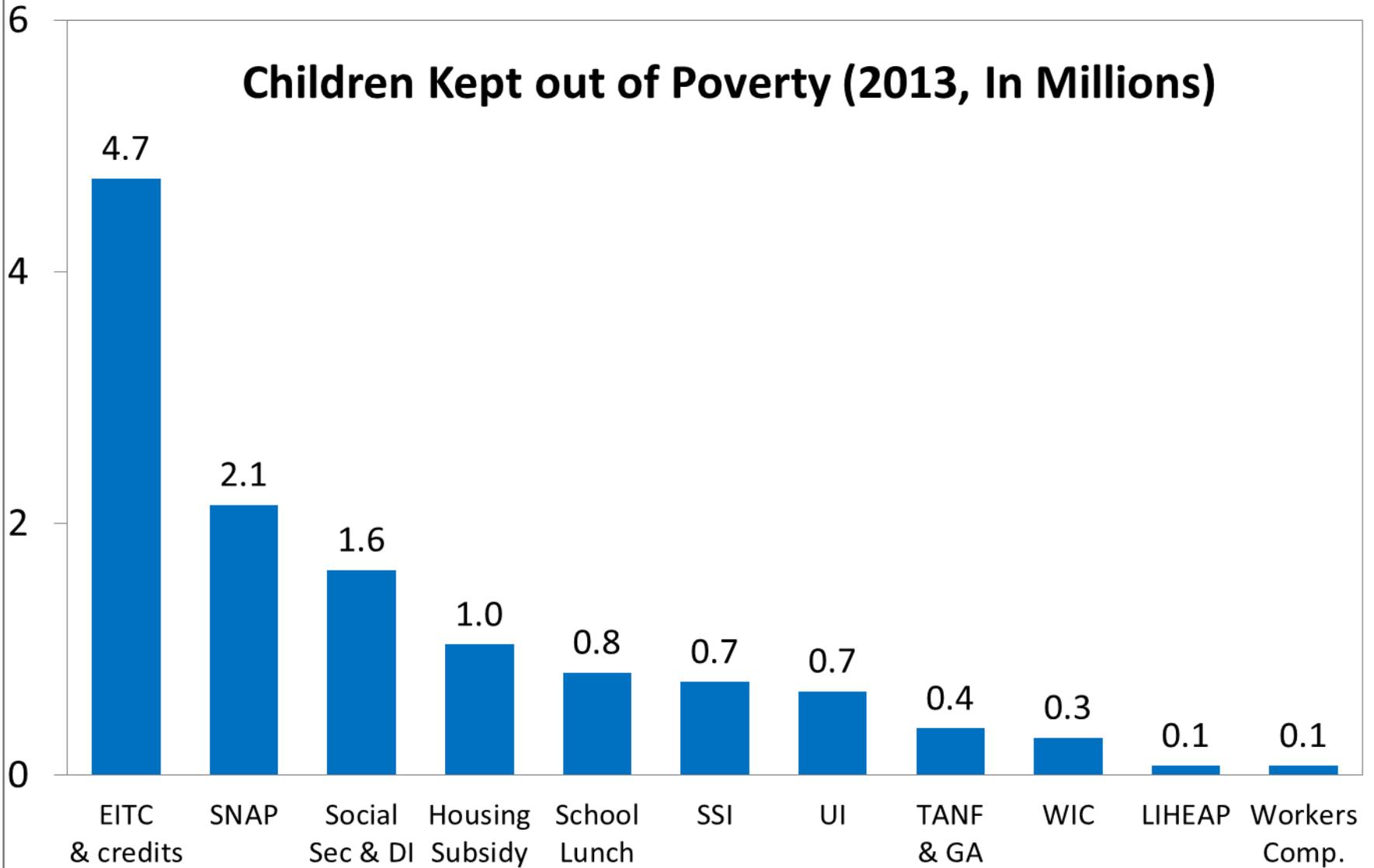
Figure 1. Real per-capita expenditures on means-tested transfers, 1968–2004.

Source: K. Spar, *Cash and Noncash Benefits for Persons with Limited Income: Eligibility Rules, Recipient and Expenditure Data, FY2002–FY2004* (Washington: Congressional Research Service, 2006), Tables 3 and 4; U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Table 2, (Washington: Government Printing Office, 2006).

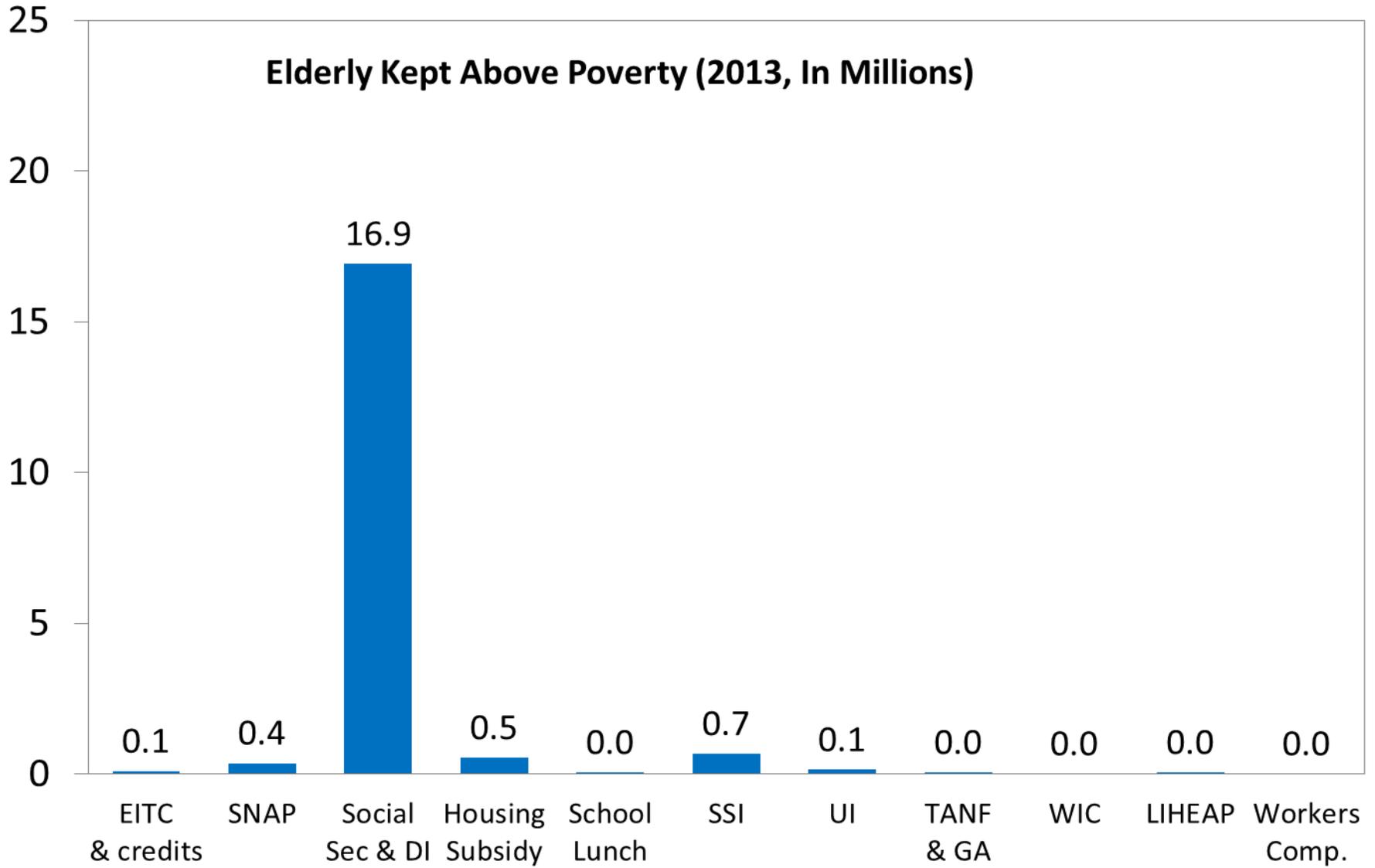
Persons Kept Above Poverty (2013, In Millions)



Children Kept out of Poverty (2013, In Millions)



Elderly Kept Above Poverty (2013, In Millions)



Outline of lecture

1. Overview of the social safety net
 2. Canonical out of work benefits
 3. [Review] Theory of labor supply
 4. Canonical “Out of work benefits” and labor supply
- [next time: what do we know about the effects of AFDC]

Canonical out of work benefit program “cash welfare program”

- Goal is to provide some income floor, a basic level of assistance below which income will not fall.
- Must be “phased out” otherwise the benefit must be given to everyone (which would be very expensive)
- Result, a benefit formula:

$$B = G - t(E - D)$$

- **Program parameters are G (guaranteed income) and t (tax rate).** E is earnings and D is allowable deductions (practically speaking I will ignore D)

Canonical out of work benefit program
“cash welfare program”

$$B = G - t(E - D)$$

- Where is the “floor”?
- Where is the “phase out”

Examples of canonical out of work benefits (do on board)

1. Not means tested
($t=0$)
2. Means tested with
eligibility cliff
3. Constant benefit
reduction rate, no
deduction
4. Constant benefit
reduction rate with
deduction

Benefits (B)



Earnings (E)

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Labor supply – application of consumer theory

- Application of basic consumer theory: Maximize $U(X_1, X_2)$ subject to a budget constraint $p_1X_1 + p_2X_2 = Y$
- Optimal interior solution is where slope of the indifference curve is equal to the slope of the budget line:

$$MRS = -\frac{MU_1}{MU_2} = -\frac{P_1}{P_2}$$

- Income effect: leads to increase in both X s
- Price effect: ambiguous effect, consists of income effect and substitution effect

Basics of Economics of Labor Supply

- We apply the consumer theory framework to study labor supply
- The two goods in utility maximization problem are leisure and (total) consumption.
- Whatever time is not devoted to leisure is spent working and earning money.
(leisure=time endowment – hours worked)

The budget constraint

- The “price” of one hour of leisure is the hourly wage rate.
- Suppose the time endowment is 2000 hours per year and the wage rate is \$10 per hour
- Suppose the price of consumption is \$1 per unit.
- Creates a direct tradeoff between leisure and consumption: each hour of work brings her 10 units of consumption.

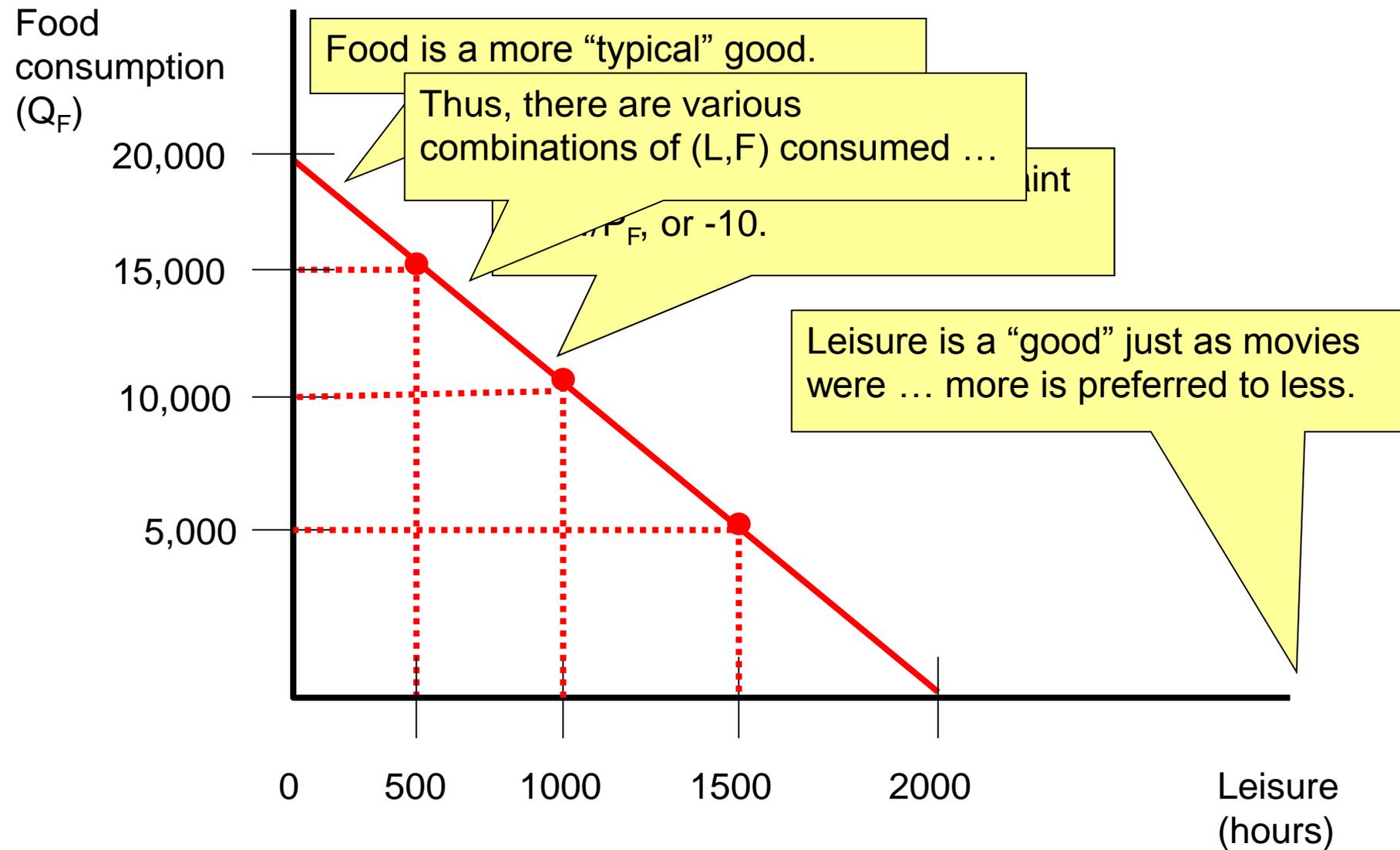


Figure 12

Leisure is a "good" and labor is a "bad."

- See separate handout on theory of labor supply

Outline of lecture

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“cash welfare program”

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- Must be “phased out” otherwise the benefit must be given to everyone (which would be very expensive)

- Result, a benefit formula:

$$B = G - t(E - D)$$

- Program parameters are G (guaranteed income) and t (tax rate). E is earnings and D is allowable deductions (practically speaking I will ignore D)

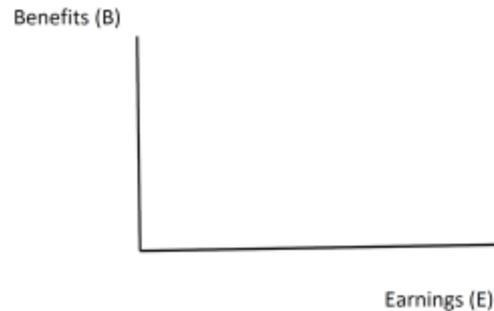
We want to take this canonical welfare program and add it to the budget constraint.

Then ask

1. how does welfare affect labor supply?
2. how do the labor supply predictions depend on the structure of B?

Examples of canonical out of work benefits (do on board)

- Not means tested (t=0)
- Means tested with eligibility cliff
- Constant benefit reduction rate, no deduction
- Constant benefit reduction rate with deduction



We want to take this canonical welfare program and add it to the budget constraint.

Then ask

1. how does welfare affect labor supply?
2. how do the labor supply predictions depend on the structure of B?

Back to handout, putting together budget constraint with welfare program

- Identify, guaranteed income G , phase-out rate (t), benefit amount (B), breakeven hours and income levels (H_{BE} , Y_{BE})
- How does budget constraint change for:
 1. Not means tested ($t=0$)
 2. Means tested with eligibility cliff
 3. Constant benefit reduction rate, no deduction
 4. Constant benefit reduction rate with deduction

Break even point

- Setting actual benefits equal to zero results in the “break-even formula” – the income level where welfare eligibility ends:

$$B = 0 \rightarrow Y_{BE} = \frac{G}{t}$$

- Thus, with a guarantee of \$300 and tax rate of 75%, earnings of \$400 reduces the welfare benefit to zero and removes the person from welfare.
- In principle, setting G equal to the poverty line (with, say, $t = 1$) would eliminate poverty.

- In designing cash welfare programs we need to consider tradeoffs between:
 - PROTECTION: how much does program help families?
 - DISTORTION (moral hazard): how does the program affect labor supply, family structure, etc

- Assume that benefit guarantee, G , is \$5,000 per year.
- Assume the benefit reduction rate, t , is 50%.

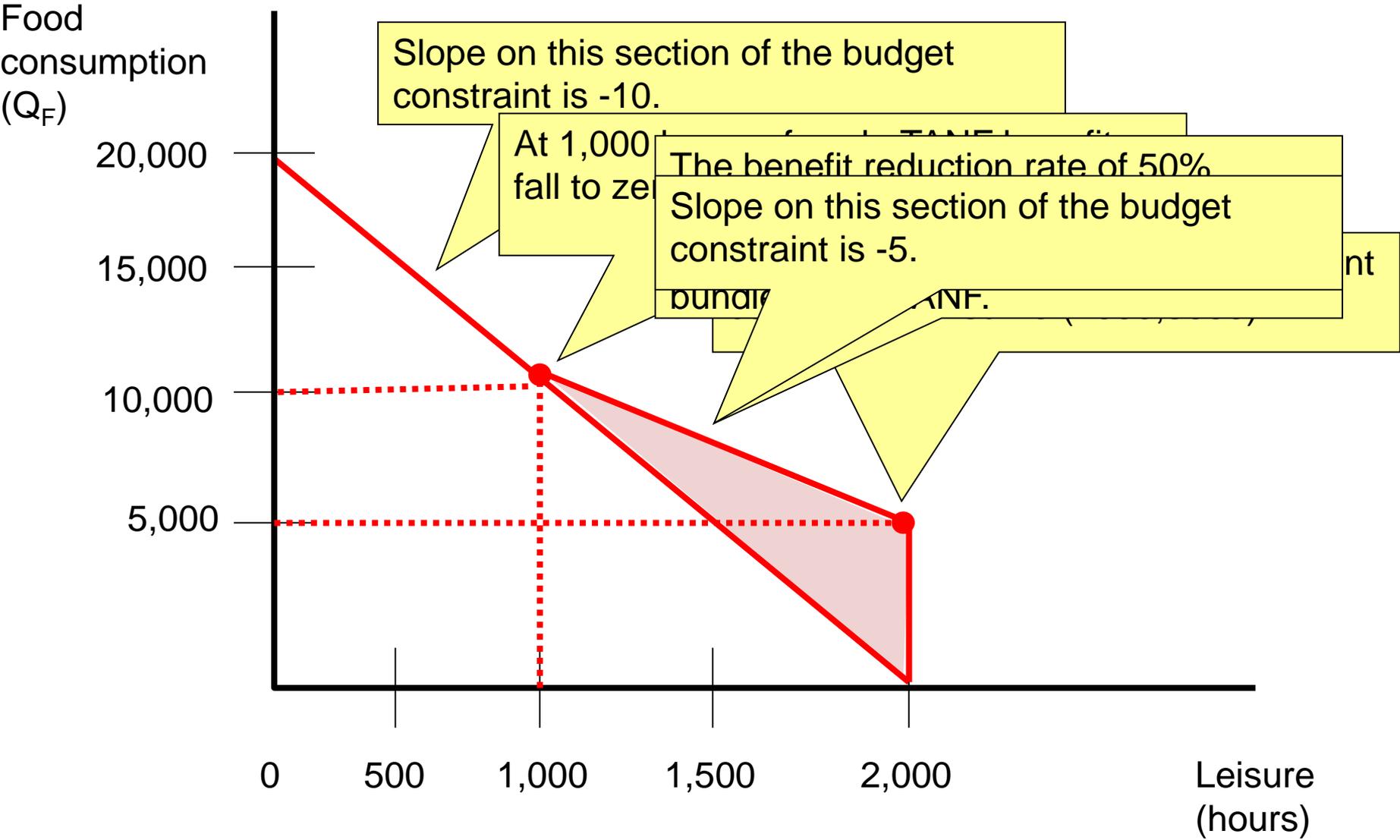


Figure 13 Introduce Temporary Assistance to Needy Families

Changes in Program Parameters:

1. Changing the benefit guarantee

- Suppose $G \uparrow$
- Step 1: how does this change the budget set?
 - How does breakeven H and Y change?
- Step 2: what is the effect on participation and costs in the program?
- Step 3: what is the effect on employment?
- Step 4: what is the effect on hours worked for program participants (prior to the expansion)
- Step 5: what is the effect on hours worked for the new entrants?
- Note difference between labor supply effects for “overall welfare participants” versus labor supply effects for any individual (changes in composition of the welfare caseload)
- [Handout has the results of this analysis]

Illustrating using Gruber slides

- One possible “policy experiment” is reducing the benefit guarantee level G .
- What happens when G falls from \$5,000 to \$3,000, holding all other parameters constant?

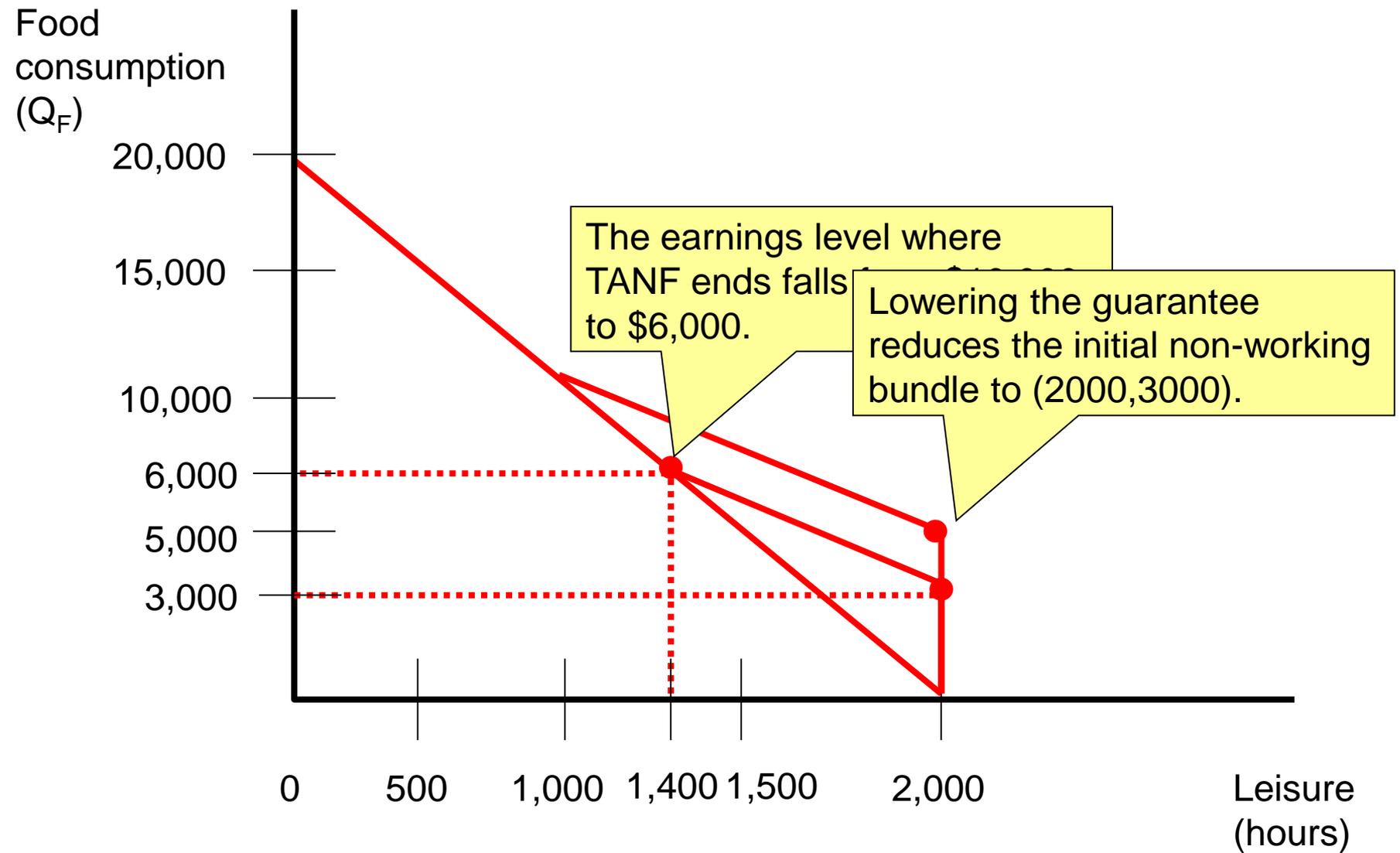


Figure 14

Lower the Benefit Guarantee

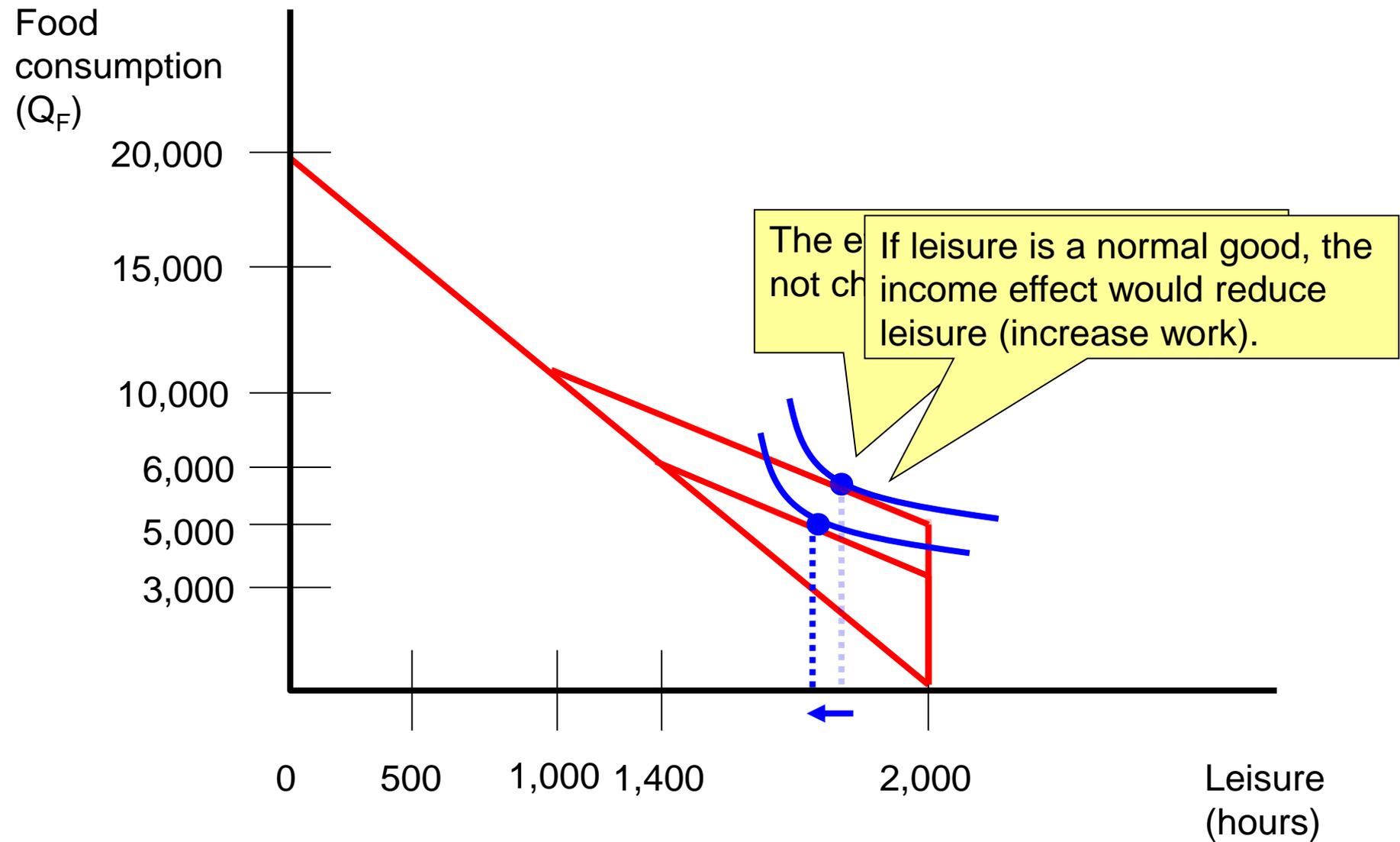


Figure 15

Policy Change Generates Income Effect Only

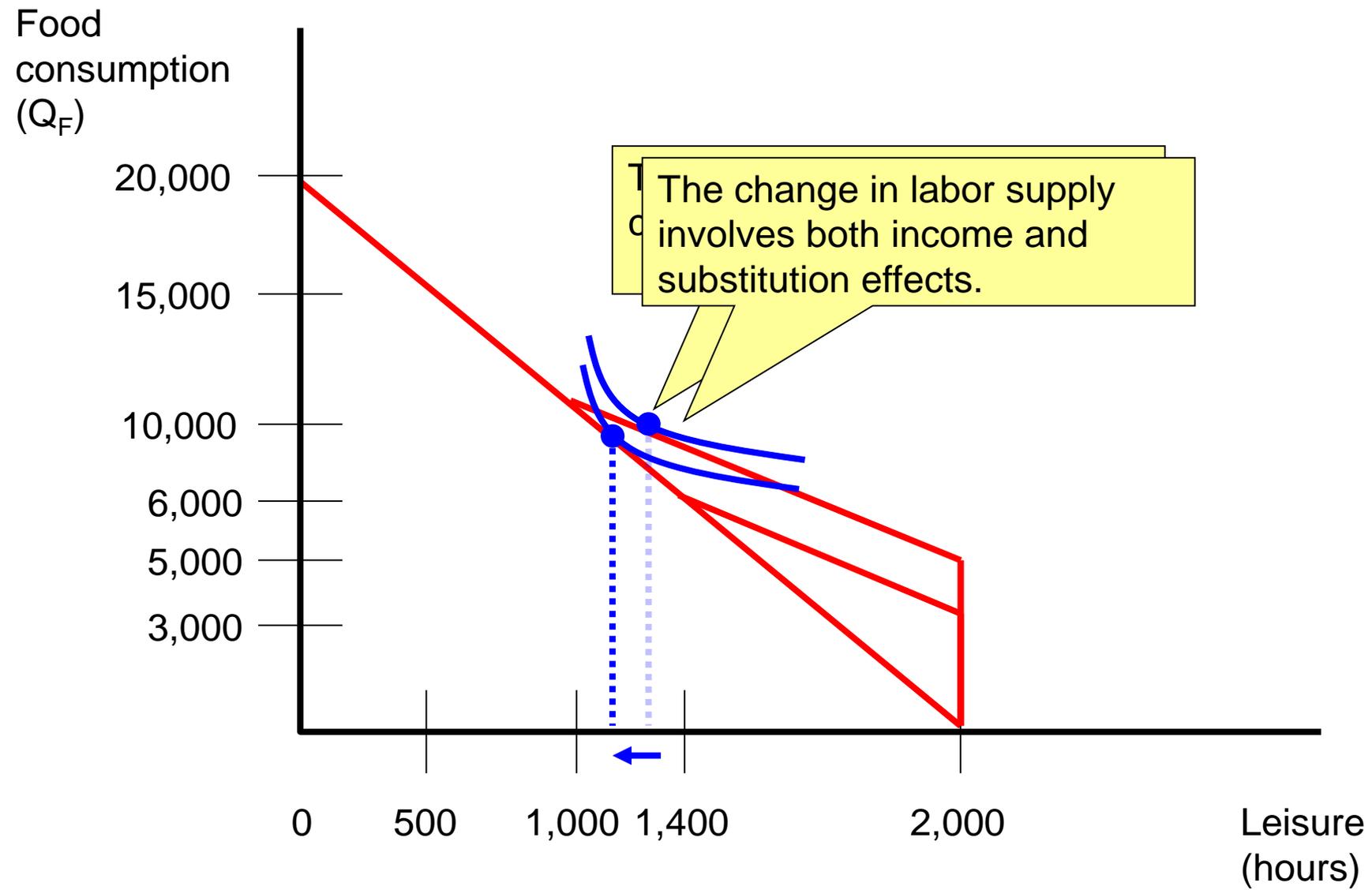


Figure 16

Both Income and Substitution Effects From Policy

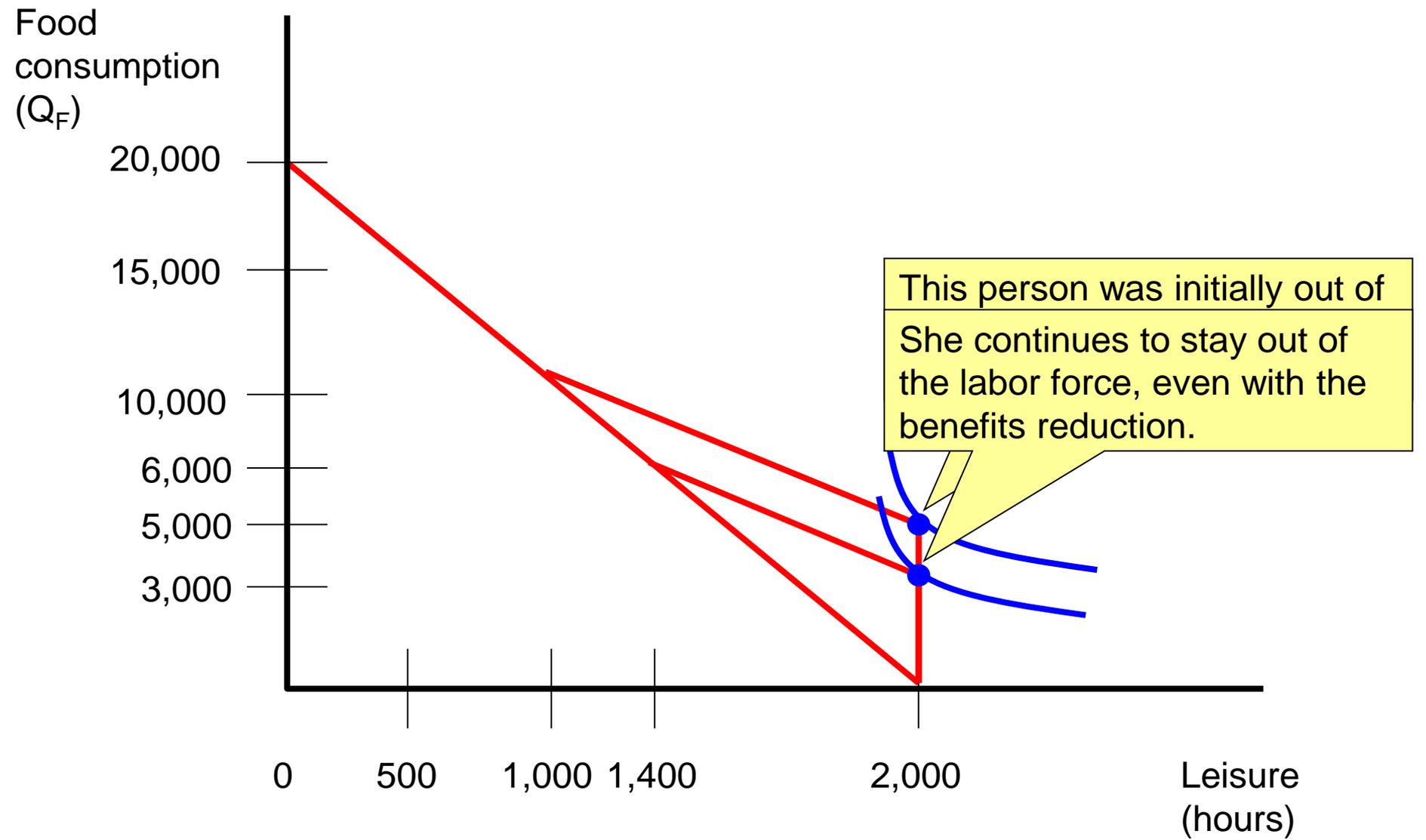


Figure 17

No Labor Supply Response To Policy Change

Changes in Program Parameters:

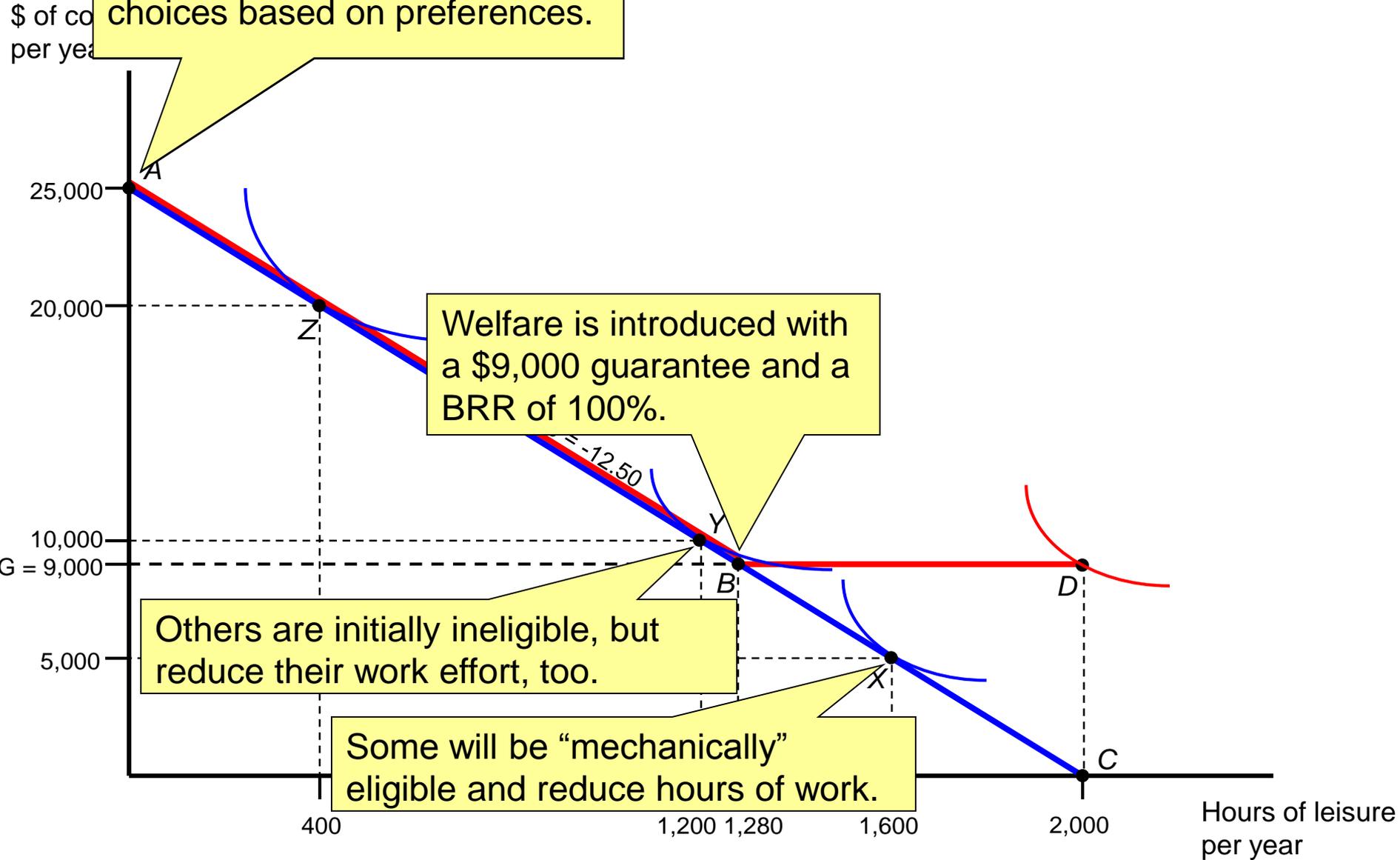
2. Changing the benefit reduction rate

- Suppose $t \downarrow$
- Step 1: how does this change the budget set?
 - How does breakeven H and Y change?
- Step 2: what is the effect on participation and costs in the program?
- Step 3: what is the effect on employment?
- Step 4: what is the effect on hours worked for program participants (prior to the expansion)
- Step 5: what is the effect on hours worked for the new entrants?
- Note difference between labor supply effects for “overall welfare participants” versus labor supply effects for any individual (changes in composition of the welfare caseload)
- [Handout has the results of this analysis]

- For much of the history of cash welfare in the US (AFDC), the program had a tax rate of 100%
- What is the predicted effects of this program?

Figure 3

Individuals make different choices based on preferences.



Iron Triangle of Welfare

- Goals of welfare:
 - increase living standards of the poor ($Y \uparrow$)
 - encourage work
 - keep costs down
- Can not achieve all three!
 - Increasing G : increases cost and reduces work
 - Reducing t : increases costs

“Optimal” Policy Problem

- Seek to balance equity and efficiency concerns:
 - [equity] governments value redistribution (from rich to poor); increasing incomes of the poor
 - [efficiency] redistribution is costly in terms of efficiency loss due to disincentives of taxes (taking from rich) and transfers (giving to poor)
 - [efficiency] categorical programs generate another form of (potential) efficiency loss through distorting choices of the outcomes that categorical programs are defined on (e.g. single mothers and welfare)
- It can be hard to make explicit conclusions because it depends on how much you care about these two parts.

AFDC and TANF in a snapshot

AFDC

- 1935 SSA
- Eligibility depends on income & asset tests
- Categorical eligibility: being a single mother
- Entitlement, cost sharing between states and fed
- States comply with federal guidelines but can set G
- Tax rate 100% (much of its history)

TANF

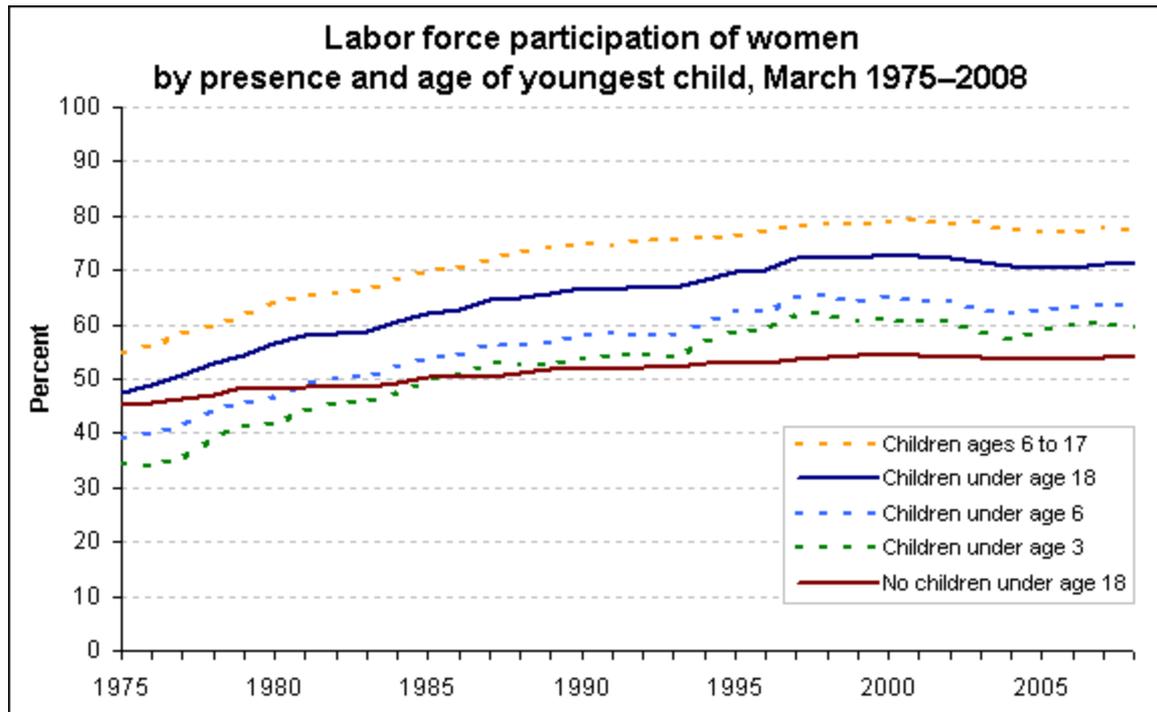
- 1996 Federal welfare reform (PRWORA)
- Fixed block grant
- States can spend grant on things other than B
- States can set G, t
- States must set time limits and work requirements

History and context for AFDC (and TANF)

- TANF is dramatic change to AFDC
- Question might be: why did we ever have AFDC as TANF seems to fit more into American ideas of “supporting self sufficiency”
- History: Civil war → lots of widows → states started Mother’s Aid programs; these continued and grew → During the depression States couldn’t fund yet demand was high → AFDC 1935 Soc Sec Act
- At this time (1935) still view that mothers should be at home with their children
- Still primarily widows

History (continued)

- AFDC caseload changed over time, mirroring demographic changes in the population more generally
- 1960s, 1970s → more divorced women on AFDC
- 1980s & 1990s → more unmarried women on AFDC
- Backdrop: employment rates of mothers increasing and working poor more “deserving” → in work benefits?



AFDC, cash welfare programs and what we know

- Aid to Families with Dependent Children
- Eligibility depends on income test, asset test, as well as “categorical eligibility” (being a single mother)
- Federal government requires program, sets t. States full ability to choose G
- “Matching grant”: cost sharing between federal and state, federal contribution inversely related to state mean income (same formula used for Medicaid)

- Low benefits: maximum benefits averaged about 39% of the poverty guideline
- Huge variation in G across states (in 1995, for a family of 3).
 - AL \$164, ARK \$204, GA \$280
 - MD \$373, CO \$350, OH \$341
 - CA \$607, MA \$579, WI \$517
- Tax rate:
 - pre-1967 100%
 - 1967 67%
 - 1981 100%

Criticisms of AFDC

- Discourages work
- Discourages marriage and formation of two-parent families
- This contributed to momentum to welfare reform

What do we know about how AFDC affected outcomes

- Very high benefit reduction rates. Consistent evidence that AFDC reduced employment and earnings
 - Strong incentive to earn under the table; work by Kathryn Edin suggests this might be important (though hard to measure)
- Significant concerns that AFDC was a big part of the large and growing rate of female headed households
 - Basic economics of this (discuss)
 - Evidence – does not explain much
- Even though it is funded at a low rate, prior to welfare reform AFDC provided important protection against extreme poverty (a low floor)

What about the benefits of AFDC?

- Surprising little work on this.
- Calculations as to the share of women and children removed from poverty; shows large numbers removed from extreme poverty and not much removed from poverty
- New paper looks at long term effects of cash welfare with a historical paper on the Mother's Pension program

Long Term Effects of Mother's Pensions

- Mothers' Pension program (1911-1935), which was the first U.S. govt welfare program for poor mothers with dependent children
- Research design: compare rejected to accepted applicants
- Digitized records in several states
- Sample: children in these families born between 1900 and 1925, most of whom had died by 2012.
- Data / outcomes: mortality, [WWII enlistment] underweight, educational attainment and income in early adulthood
- Findings: Receiving the pension as a child leads to:
 - Increased longevity (1.5 years of life expectancy)
 - reduced the probability of being underweight by half
 - increased educational attainment by 0.4 years
 - increased income in early adulthood by 14%

General lessons for traditional welfare programs

- Basic structure discourages work
- A high phase-out can generate large moral hazard, work disincentives
- Efforts to encourage work (reducing t) can have unintended effects on new entrants and increasing the cost and size of the program
- State safety net programs generate massive inequities across states

Welfare Reform

Hilary Hoynes

PP290

Outline of lecture

1. What is TANF & Elements of Welfare Reform
2. How did we get there?
3. Predicted Effects of Welfare Reform (back to labor supply)
4. Class discussion on welfare reform
 - What did the reform do? What worked “well”? What worked not so well?
 - Where are we at now?
 - Where should welfare policy go?
 - Obama FY 2017 Budget Proposals

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 - Obama FY 2017 Budget Proposals

STATEMENT OF GOALS OF PRWORA

The Temporary Assistance for Needy Families (TANF) program was established with the passage of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA).

TANF has four main goals:

1. to provide assistance to needy families so that children may be cared for in their own homes or in the homes of relatives;
2. to end the dependency of needy parents on government benefits by promoting job preparation, work, and marriage;
3. to prevent and reduce the incidence of out-of-wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies; and
4. to encourage the formation and maintenance of two-parent families.

Welfare reform in 1990s

Reforms in the 1990s addressed long-standing criticisms that AFDC discourages work and marriage, and causes long term dependence.

Two periods of “reform”

(1) State waivers

(2) Federal reform, PRWORA 1996

(1) State waivers

- States request HHS to waive specific eligibility and benefit requirements.
- Between 1992 and 1996, 28 states were granted major waivers.
- Rich variation in timing and nature of waivers

(2) Federal reform, PRWORA 1996

- Replaces AFDC with TANF (Temporary Assistance for Needy Families)
 - More state control for program design
 - Time limit (lifetime limit of 5 years– states can make shorter)
 - Strengthen work requirements
 - Financial sanctions
 - Convert federal funding from matching program to block grant (entitlement aspect of AFDC gone)
- Less variation in TANF implementation dates; still variation in nature of state TANF reforms.

BLOCK GRANTS VERSUS MATCHING FORMULAS

- Since 1965 (and as part of Title XIX of the Social Security Act in 1965 which created the Medicaid and Medicare programs) AFDC financing was based on a matching formula
- Federal Medical Assistance Percentage– determines state's \$\$ for its Medicaid program. The federal share of a state's AFDC benefit payments was determined by the matching formula

$$FMAP = 1 - 0.45 * \left(\frac{\text{State per capita income}}{\text{National per capita income}} \right)^2 ,$$

- Average per capita income state has 55% paid by federal government (and 45% for state). Federal share has a floor of 50%, the average was 60% and the max was 78% (Mississippi).
- Result was a federal open-ended obligation to states under AFDC that implicitly rose and fell with the health of the state's macroeconomy.
- Subsidized entitlement program.

- The entitlement was severed with the creation of the TANF program
- PRWORA allocated an annual block grant to states of \$16.5 billion (what each state spent in year prior to bill passage)
- Fixed in nominal terms, (shrinking real value)
- There was a contingency fund or emergency fund that states can tap into. Not funded at a very high level.
- TANF legislation mandated that states continue to provide financial support for low-income families as a condition for receipt of the basic block, known as the maintenance-of-effort (MOE) requirement. States can count any state, local, or “third party” spending (e.g. spending by food banks or domestic violence shelters) directed towards needy families as long as it is tied to at least one of the four goals of TANF. For example, many states meet MOE is with state EITCs.

Effects on Immigrants

- PRWORA did more than just reform AFDC to TANF
- It put restrictions on participation in social safety net programs for immigrants (SNAP, Medicaid). These policies are complicated, have changed over time, and have been “filled in” by states

Policy Changes – Time Limits

Table 6. State Time Limits, July 2012

States	Time Limits
34: AK ¹ , AL, CO, HI, IA ⁶ , IL ¹ , KY, LA, MD, ME, MN, MO, MS, MT, NC ⁸ , ND, NE, NH, NJ, NM, NV, OH ⁹ , OK, OR ^{10*} , PA, SC, SD, TN, TX, VA, WA ¹² , WI, WV, WY	60 months
6: CA ^{2*} , FL, GA, KS, MI, RI	48 months
2: DE ⁴ , UT	36 months
4: AR, AZ, ID, IN*	24 months
1: MA	24 months of assistance per 60-month period
1: CT ³	21 months
2: NY ⁷ , VT ¹¹	Unlimited; state-sponsored after 60 months
1: DC ⁵	After 60 months, eligibility is determined at a reduced level where benefits are paid at 80 percent of payment level for unit size.

Source: Welfare Rules Databook: State TANF Policies as of July 2012, OPRE Report 2013-27, published November 2013 (Urban Institute), Table IV.C.1 State Lifetime Time Limit Policies, July 2012.

Source: Ziliak MTTP2

Policy Changes – Other Policies

Table 5. State Policy Choices in the TANF Program as of 2012

State	Max benefit guarantee, 3-person case ^A	Change in max benefit since 1996 ^A	Family cap ^B	Liquid asset limit ^C	Vehicle asset test ^C	Diversion payment amount ^D
Alabama	215	51	No	None	All	None
Alaska	923	0	No	2000/3000 ¹	All ²	3 months
Arizona	278	-69	Yes	2000	All	3 months
Arkansas	204	0	Yes	3000	One	3 months
California	—	—	Yes	2000/3000 ¹	4650 ^F /driver ³	Varies
<i>Nonexempt</i>	638	42	—			
<i>Exempt</i>	714	118	—			
Colorado	462	106	No	None	All	Varies
Connecticut	576	33	Yes	3000	9500 ^{4E}	3 months
Delaware	338	0	Yes	10000	All	\$1500
D.C.	428	13	No	2000/3000 ¹	All	3 months
Florida	303	0	Yes	2000	8500 ^E	Varies
Georgia	280	0	Yes	1000	1500/4650 ^{5E}	None
Hawaii	610	-102	No	5000	All	None
Idaho	309	-8	No	5000	One	3 months
Illinois	432	55	No	2000/3000/+50 ⁶	One ⁷	None*
Indiana	288	0	Yes	1000/1500 ^R	5000 ^E	None
Iowa	426	0	No	2000/5000 ^R	One ⁸	None
Kansas	429	0	No	2000	All	\$1000
Kentucky	262	0	No	2000 ⁹	All	\$1300
Louisiana	240	50	No	None	All	None
Maine	485	67	No	2000	One	3 months
Maryland	574	201	No	None	All	3 months

Source: Ziliak MTTP2

Outline of lecture

1. What is TANF & Elements of Welfare Reform
2. How did we get there?
3. Predicted Effects of Welfare Reform (back to labor supply)
4. Class discussion on welfare reform
 - What did the reform do? What worked “well”? What worked not so well?
 - Where are we at now?
 - Where should welfare policy go?
 - Obama FY 2017 Budget Proposals

How did we get to PRWORA?

- Culmination of policy changes starting in 1980s
- Reagan – increased BRR to 100%
- Work Incentive Program – grew with OBRA 1980; work requirements
- Early emphasis was more on education and training
- Later, into the 1980s and 1990s this moved into (cheaper) work preparation services

How did we get to PRWORA? – the history (From Edin and shaefer)

- Clinton: “I want to offer the people on welfare the education, the training, the child care, the health care they need to get back on their feet, but say after 2 years they must get back to work, too, in private business if possible in public service is necessary. We have to end welfare as a way of life and make it a path to independence and dignity”
- Clinton: We will “make history. We will reward the work of millions of working poor Americans by realizing the principle that if you work 40 hours per week and you’ve got a child in the house, you will no longer be in poverty”
- The original plan (quote 1) would be expensive (investments, public sector job); plus 1994 Republicans take over Congress → different bill emerged. All the sticks with few carrots plus block grants (greater state flexibility)

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Dichotomy of Welfare Reform

	Welfare Tightening	Welfare Loosening
General Reforms	<ul style="list-style-type: none">• Work requirements• Financial sanctions• Time limits	<ul style="list-style-type: none">• Liberalize earnings disregards• Liberalized asset test
Family Structure Specific Reforms	<ul style="list-style-type: none">• Family Cap• Residency Requirement for Unmarried Teens	<ul style="list-style-type: none">• Expand eligibility for two-parent families

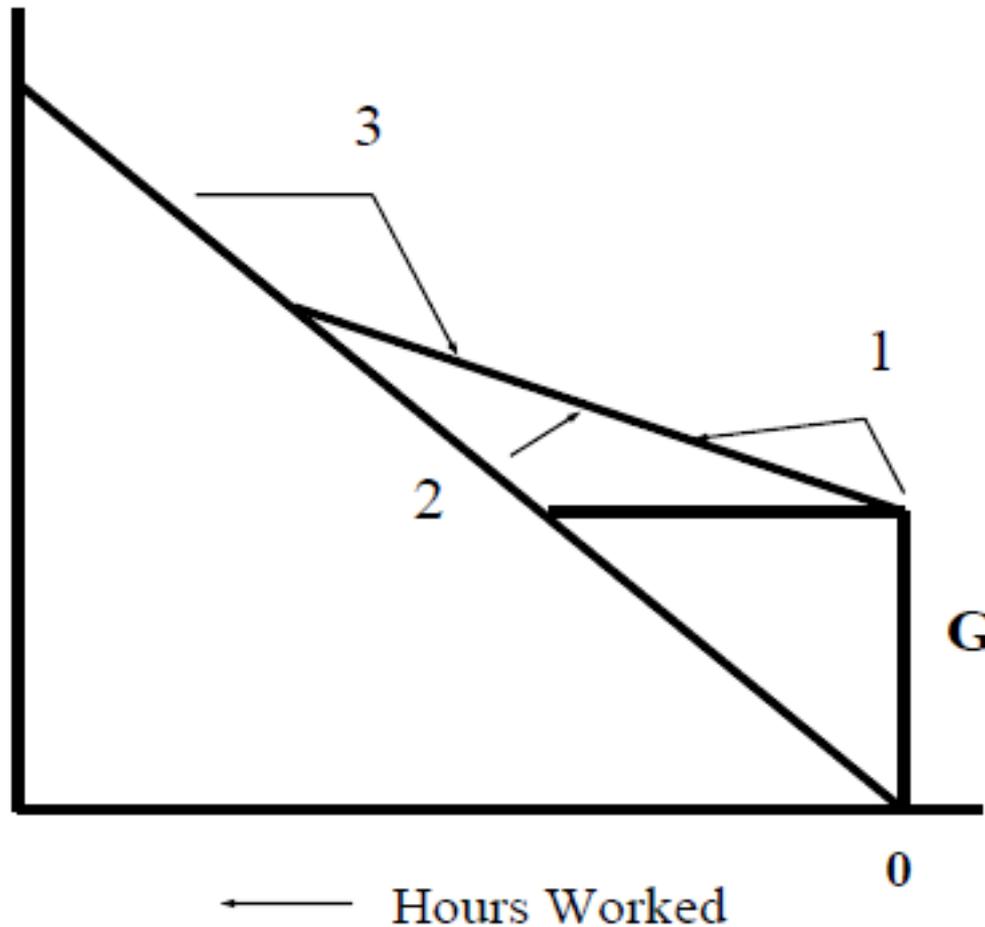
Theoretical Predictions of Welfare Reform

- General expected outcomes are:
 - Reduction in welfare caseloads
 - Extensive margin labor supply increase; intensive margin ?
 - Poverty? Could increase or decrease
 - Family structure is unclear

IMPACT OF REFORM ON LABOR SUPPLY

Increase Earnings Disregard

Income



Earnings Disregard -- Predictions

Non-working welfare recipients (e.g. 1 above)

- + employment, hours and earnings
- transfer income
- + income

Working welfare recipients

- + (likely) hours, earnings, and transfers
- + income

Newly eligible at prior labor supply (e.g. 2 above)

- + welfare (mechanical response)
- hours, earnings
- + income

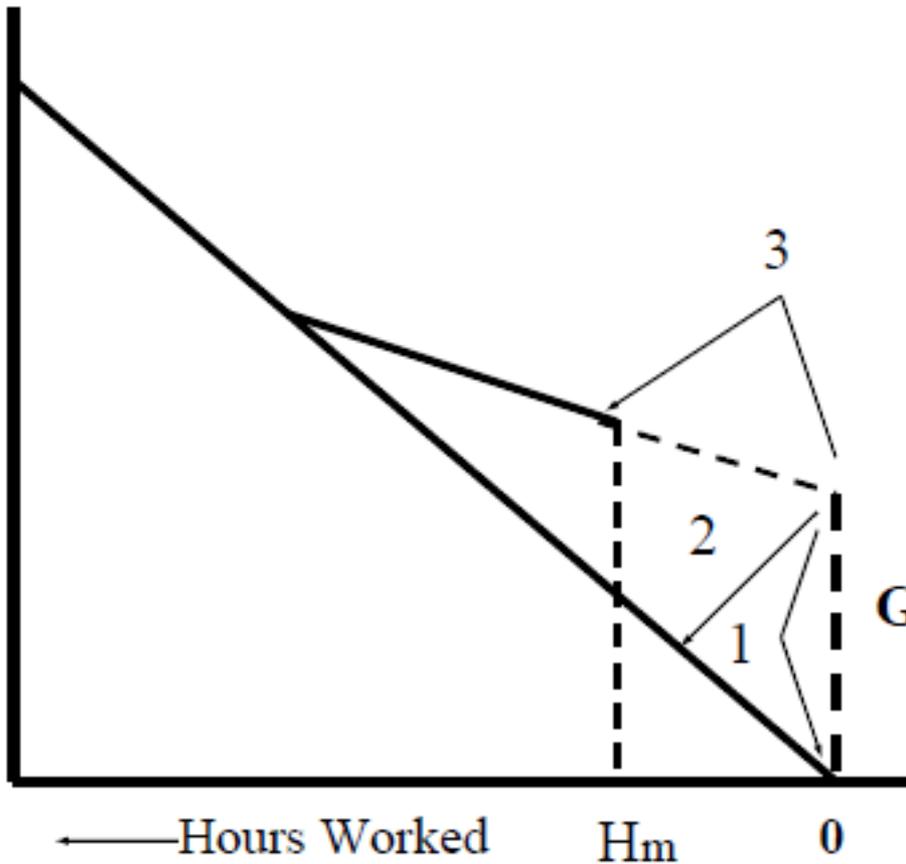
Ineligible at prior labor supply (e.g. 3 above)

- + welfare (behavioral response)
- hours, earnings
- income

IMPACT OF REFORM ON LABOR SUPPLY

Mandatory Work Requirement (minimum hours restriction)

Income



↑ hours, empl rate

↑ earnings

↓ welfare

- Fine print on work requirements
- By TANF Legislation, adults must participate in work activities, and at least half of the caseload must be engaged in 30 hours of work-related activity (20 hours if there is a single parent or caretaker relative of a child under age 6). These activities include: unsubsidized employment, subsidized private or public sector employment, on-the-job training, job search and job readiness assistance (for a maximum of 6 weeks), community service programs, vocational educational training (12 months maximum), and education directly related to employment for recipients without a high school diploma or equivalent

IMPACT OF REFORM ON LABOR SUPPLY

Time Limits

- Mechanical effect is to eliminate welfare when recipient reaches the time limit leading to an increase in labor supply.
- Anticipatory response is to bank welfare and exit prior to time limits.

↑ hours worked, labor force participation

↑ earnings

↓ welfare

IMPACT OF REFORM ON LABOR SUPPLY

Financial Sanctions

+ hours worked, labor force participation

+ earnings

↓ welfare

Outline of lecture

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 - What did the reform do? What worked “well”? What worked not so well?
 - Where are we at now?
 - Where should welfare policy go?
 - Obama FY 2017 Budget Proposals

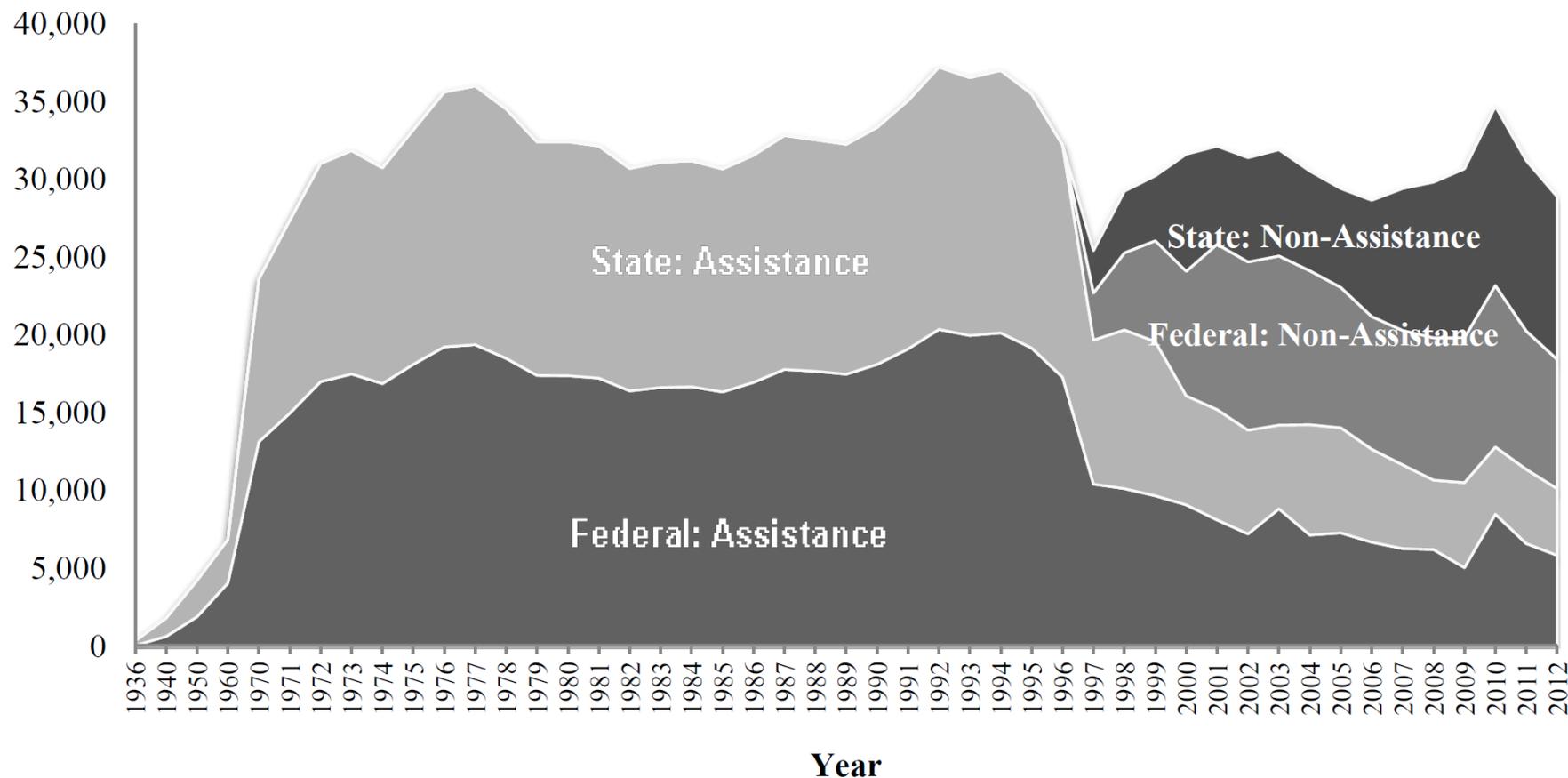
Predictions at the time (Jencks American Prospect)

- When this legislation was adopted, its opponents made four predictions:
- Many mothers would not be able to find jobs when they hit their TANF time limit;
- Even mothers who found jobs would seldom earn enough to support their family;
- Forcing unmarried mothers to work would not reduce unwed motherhood or discourage divorce; and
- There would not be enough good child care, so more children would be neglected.
- With block grants, there would be a “race to the bottom” for states and their programs.

- Hard to disentangle effects of:
 - Welfare reform
 - The Increase in the EITC
 - The strong economy of the late 1990s

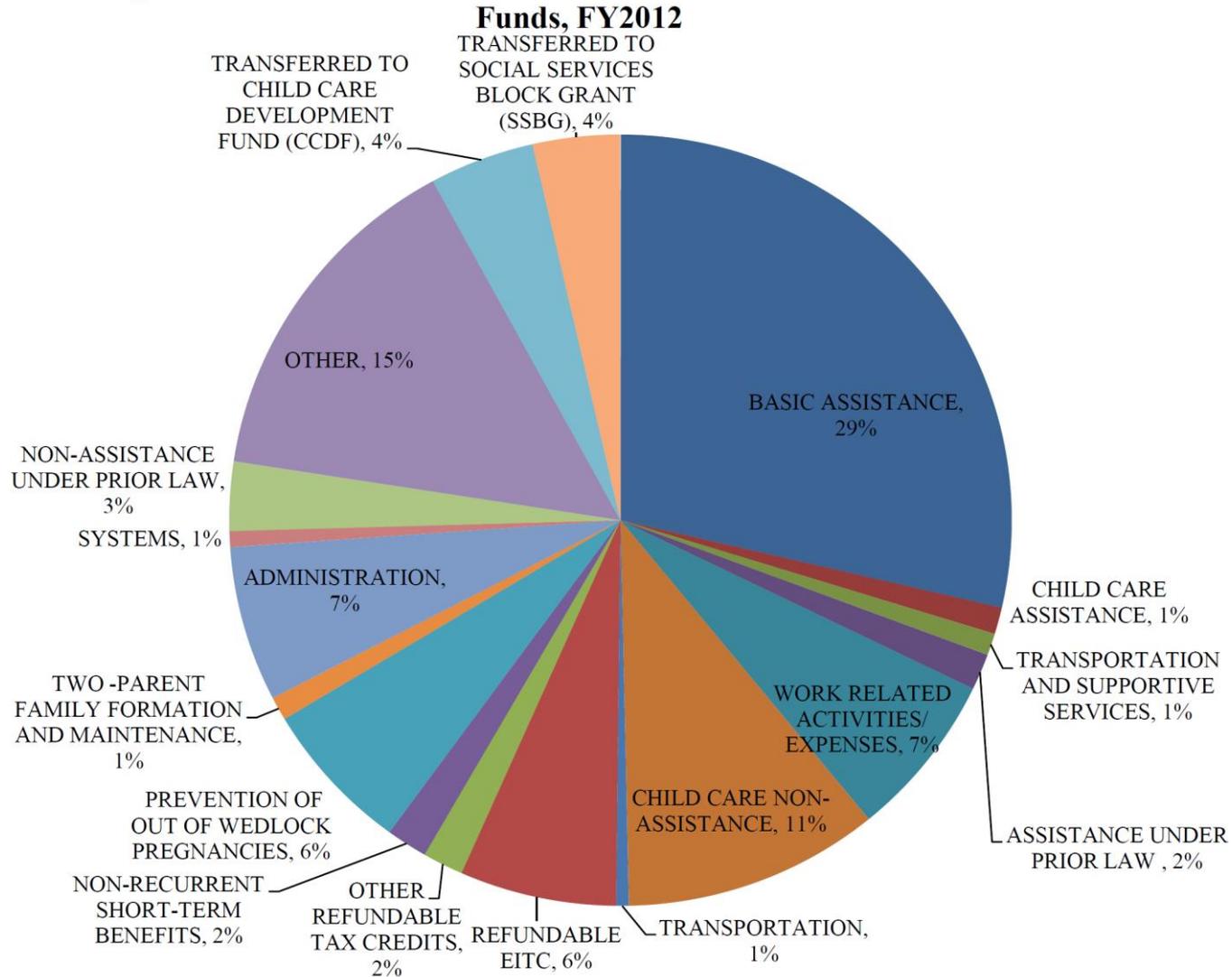
WHAT HAPPENED? Shift from Cash to Noncash Assistance

Figure 2. AFDC/TANF Expenditures by Level and Category, FY 1936-2012 (in millions of 2012 dollars)



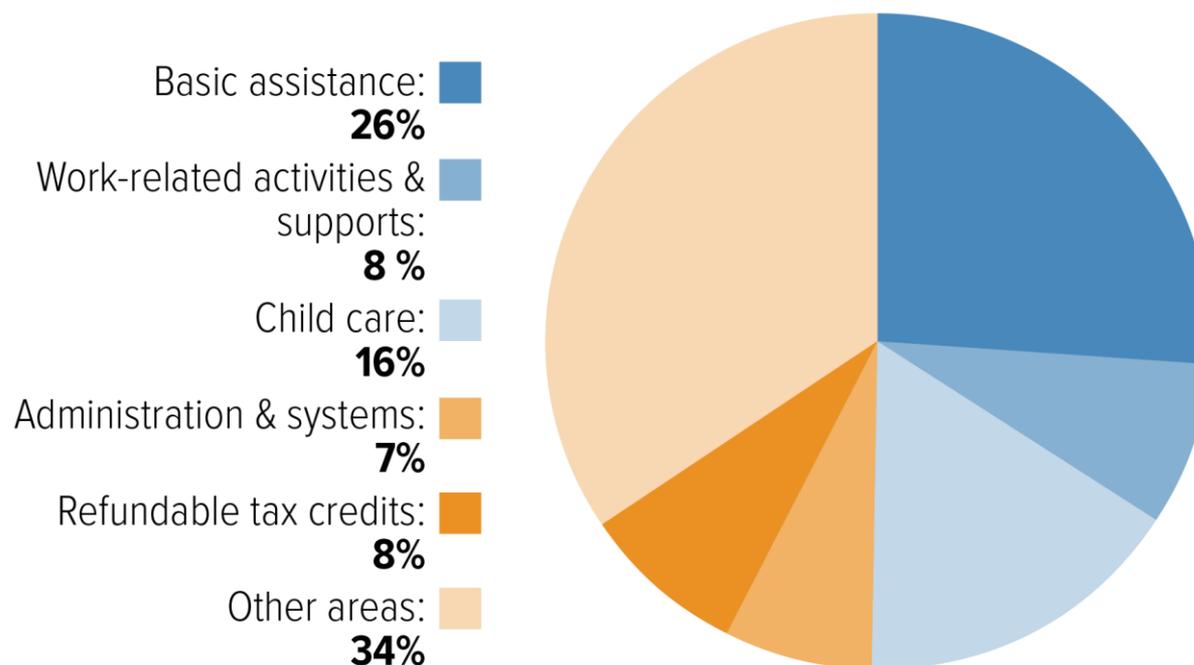
WHAT HAPPENED? Shift from Cash to Noncash Assistance

Figure 3. Allocation of Federal TANF and State Maintenance of Effort



WHAT HAPPENED? Shift from Cash to Noncash Assistance

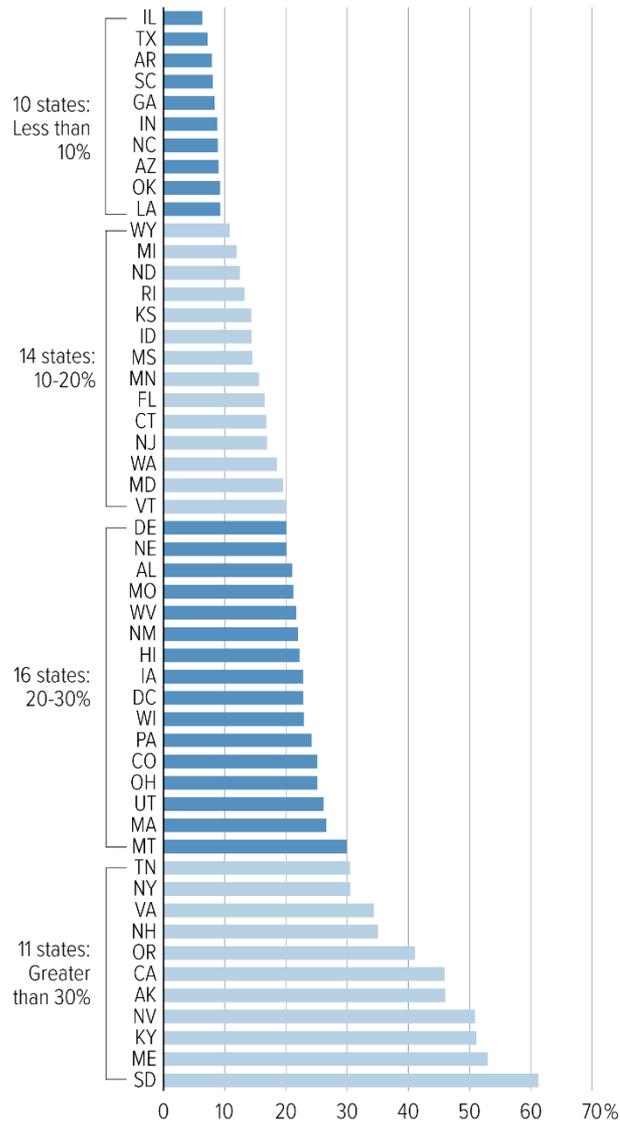
How States Spent Federal and State TANF Funds in 2014



Note: Total does not add to 100% due to rounding. TANF = Temporary Assistance for Needy Families.

Source: CBPP analysis of HHS 2014 TANF financial data

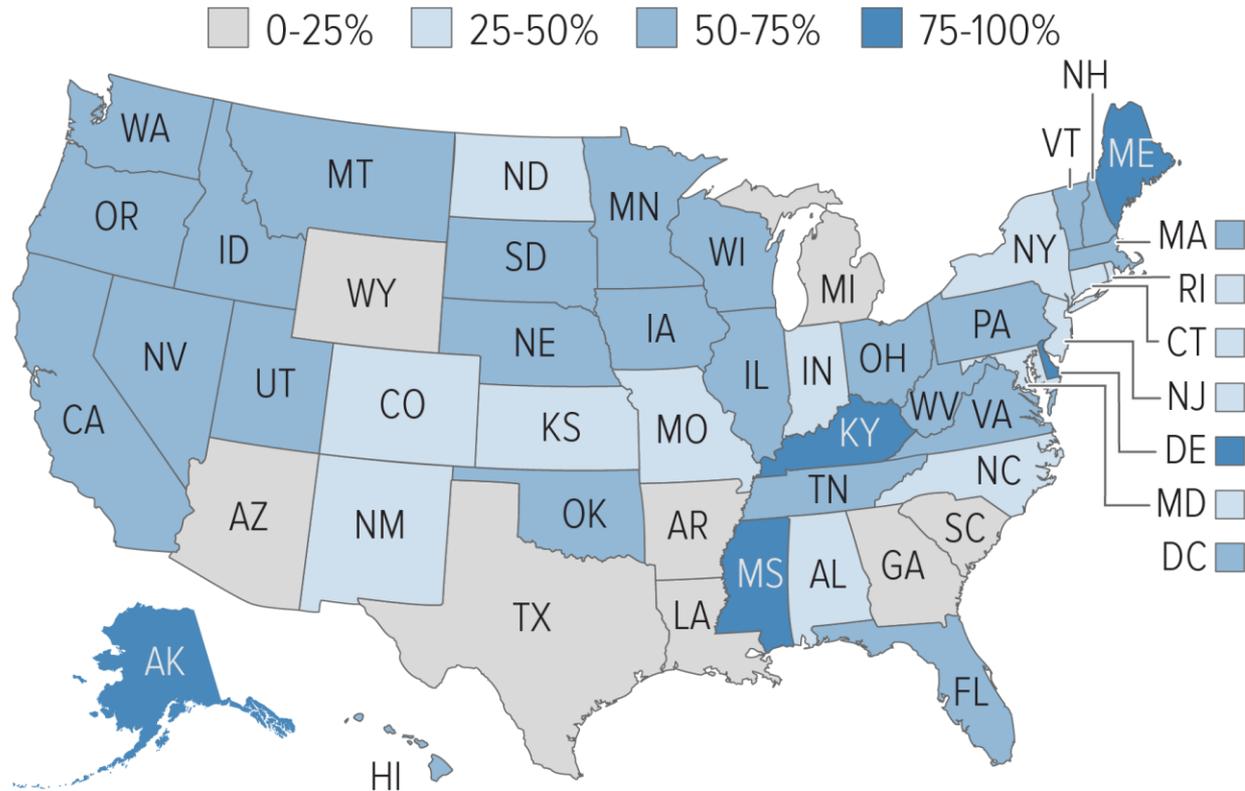
10 States Spent Less Than 10 Percent of Federal and State TANF Funds on Basic Assistance in 2014



Note: TANF = Temporary Assistance for Needy Families

Source: CBPP analysis of HHS 2014 TANF financial data

Many States Spent Less Than Half of Federal and State TANF Funds on Core* Welfare Reform Services in 2014



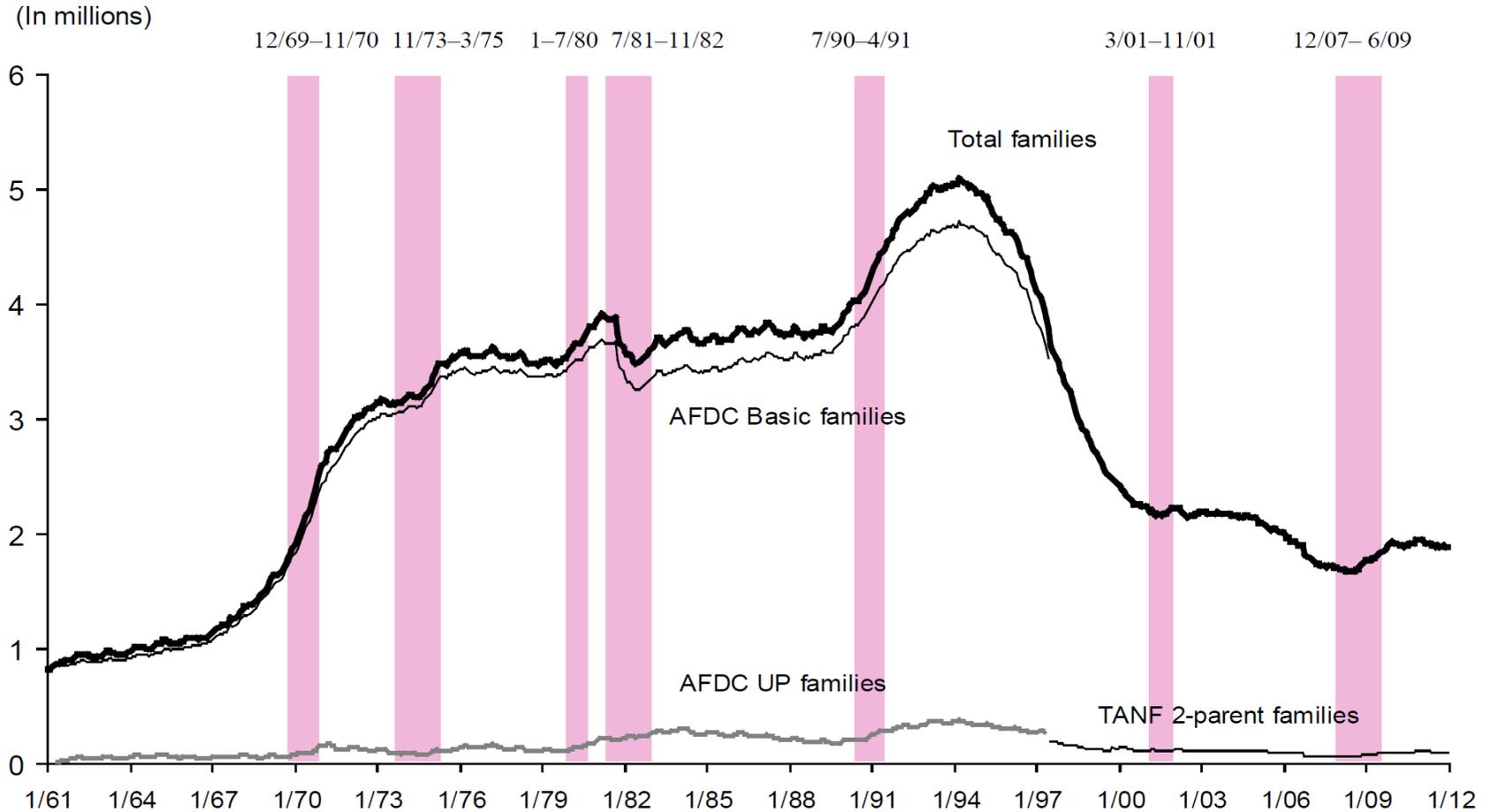
*Core TANF is defined here as basic assistance, work-related activities, and child care.

Note: TANF = Temporary Assistance for Needy Families

Source: Calculated from 2014 HHS financial data

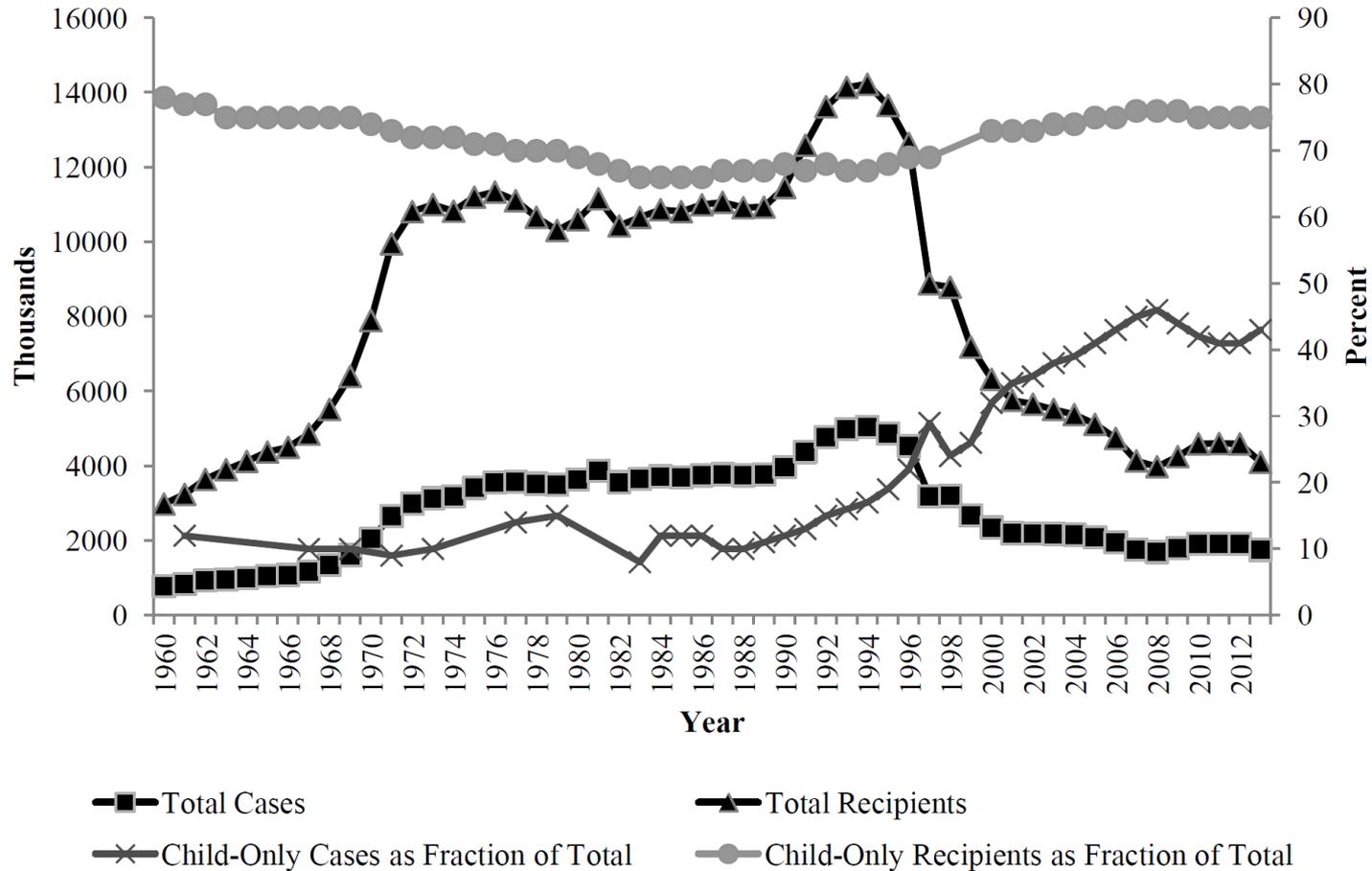
WHAT HAPPENED? Decline in Caseloads

Figure TANF 1. AFDC/TANF Families Receiving Income Assistance



WHAT HAPPENED? Decline in Caseloads

Figure 4. Trends in AFDC/TANF Caseloads and Recipients, 1960-2013



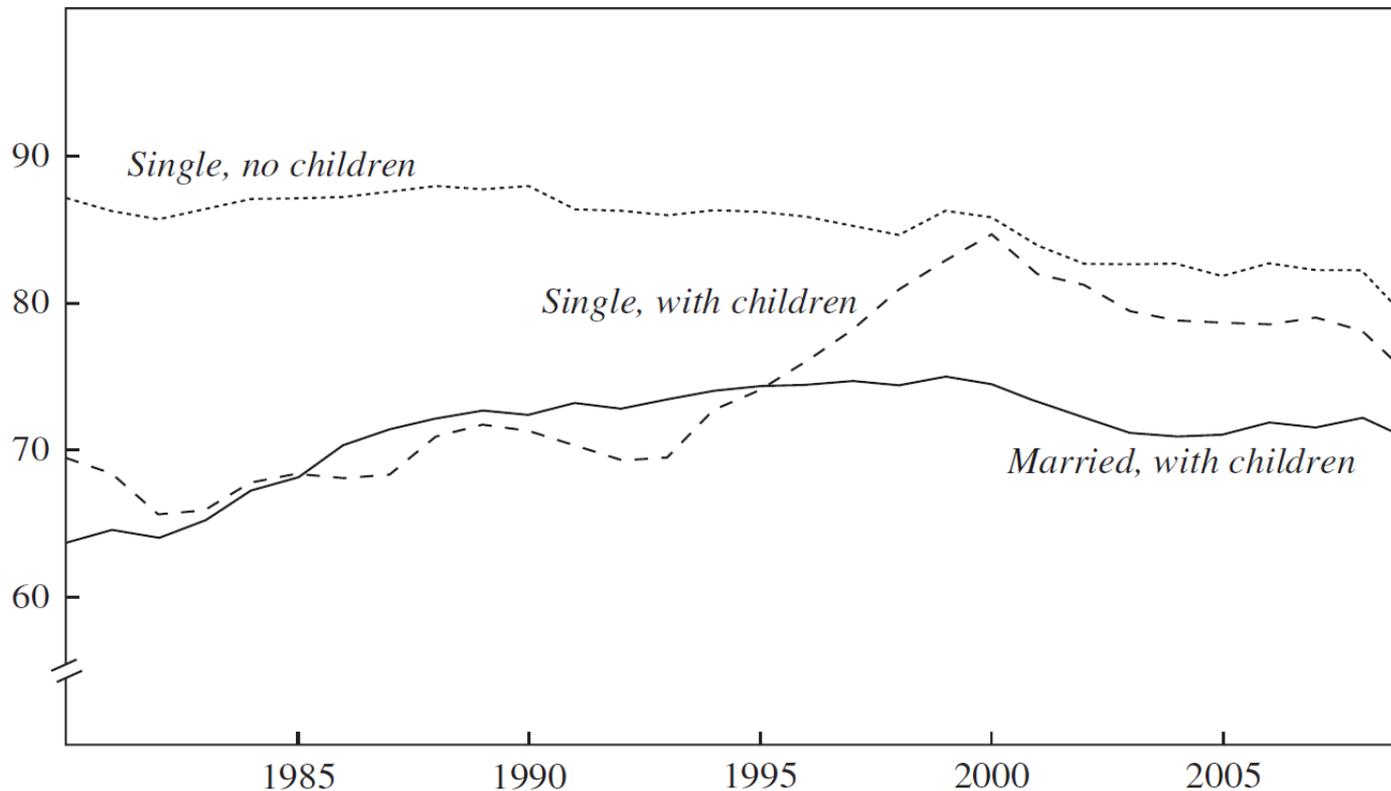
WHAT HAPPENED? Increase in Employment

MARIANNE P. BITLER and HILARY W. HOYNES

97

Figure 6. Female Employment Rate by Marital Status and Presence of Children, 1980–2009^a

Percent



Source: Authors' calculations from 1981–2010 March CPS data.

a. Employment is measured annually and defined as having worked any weeks during the calendar year before the survey year. The sample includes women aged 20–58.

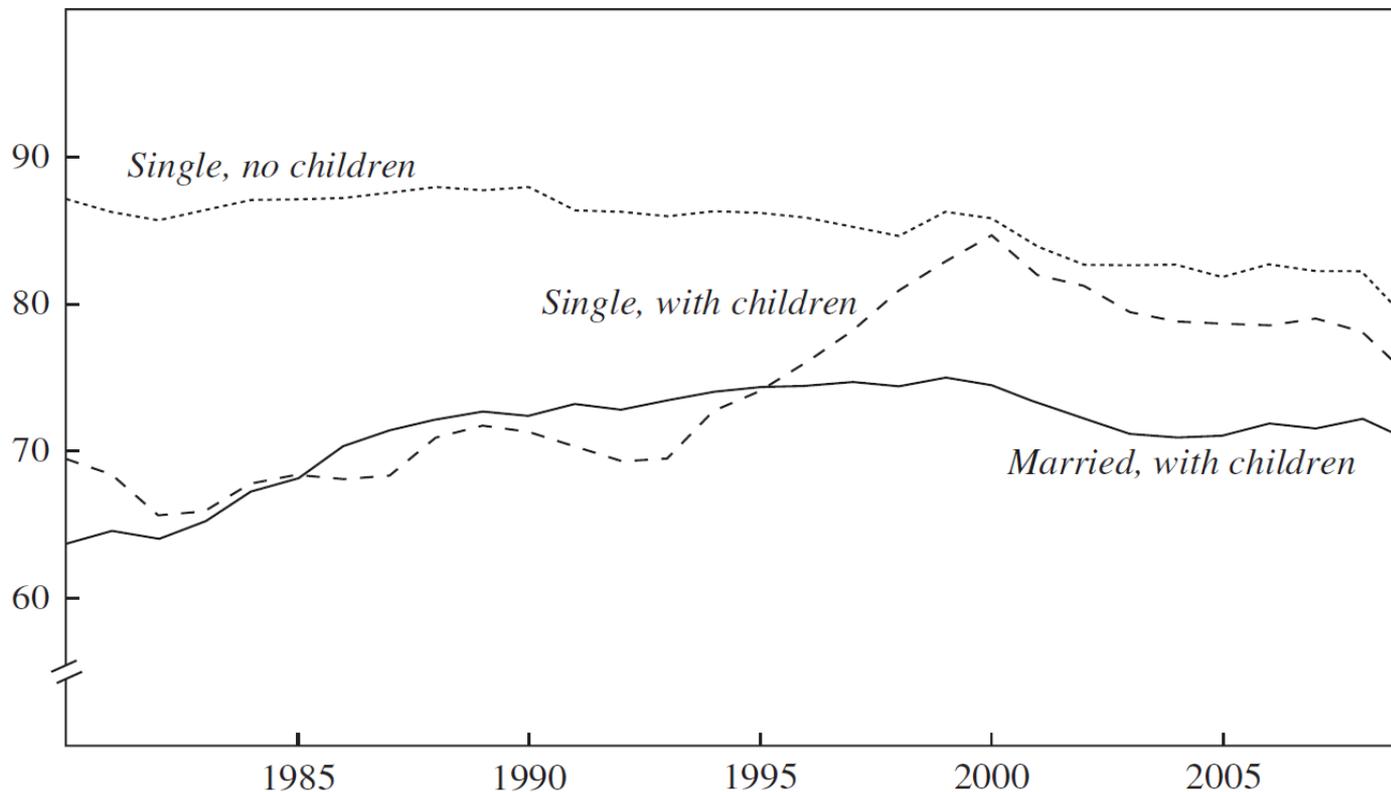
WHAT HAPPENED? GR and Increase in Employment

MARIANNE P. BITLER and HILARY W. HOYNES

97

Figure 6. Female Employment Rate by Marital Status and Presence of Children, 1980–2009^a

Percent



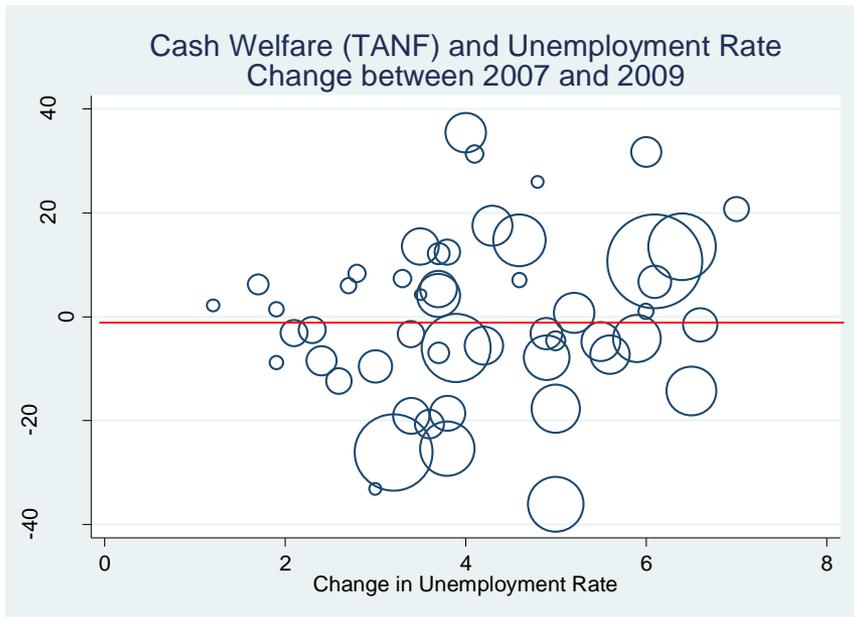
Source: Authors' calculations from 1981–2010 March CPS data.

a. Employment is measured annually and defined as having worked any weeks during the calendar year before the survey year. The sample includes women aged 20–58.

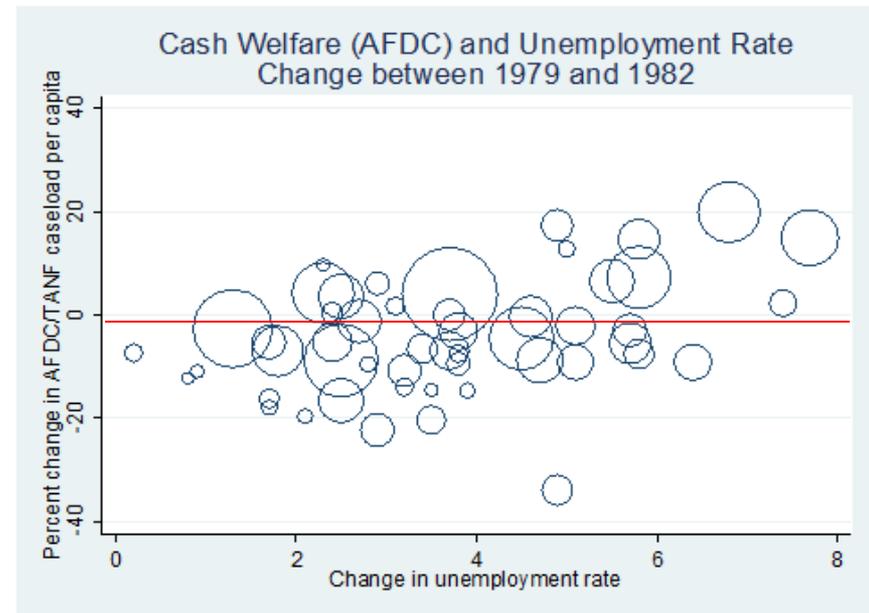
WHAT HAPPENED? Loss of Entitlement

State Scatterplot of ΔUR against $\% \Delta \text{caseload/pop}$

TANF in GR



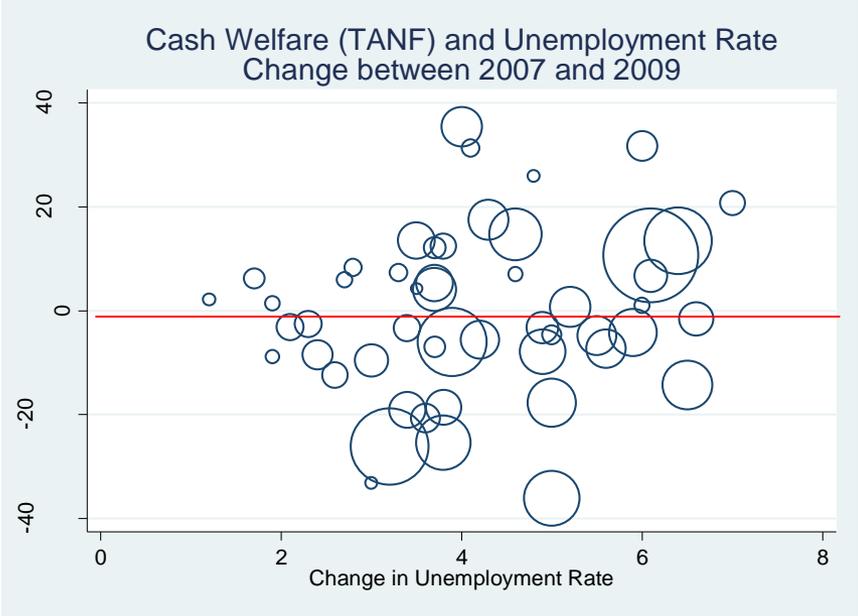
AFDC in 1980s Recession



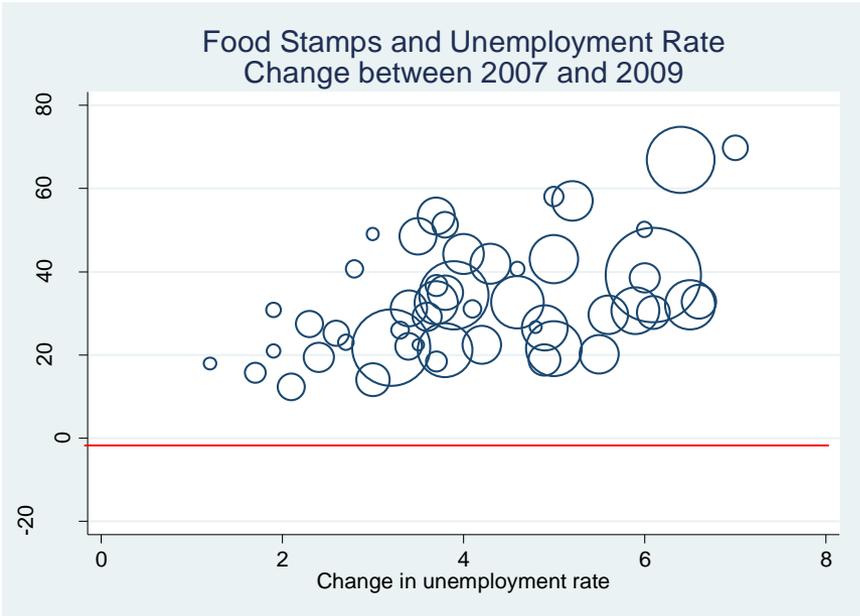
Comparison of Food Stamps and TANF in GR

State Scatterplot of ΔUR against $\% \Delta \text{caseload/pop}$

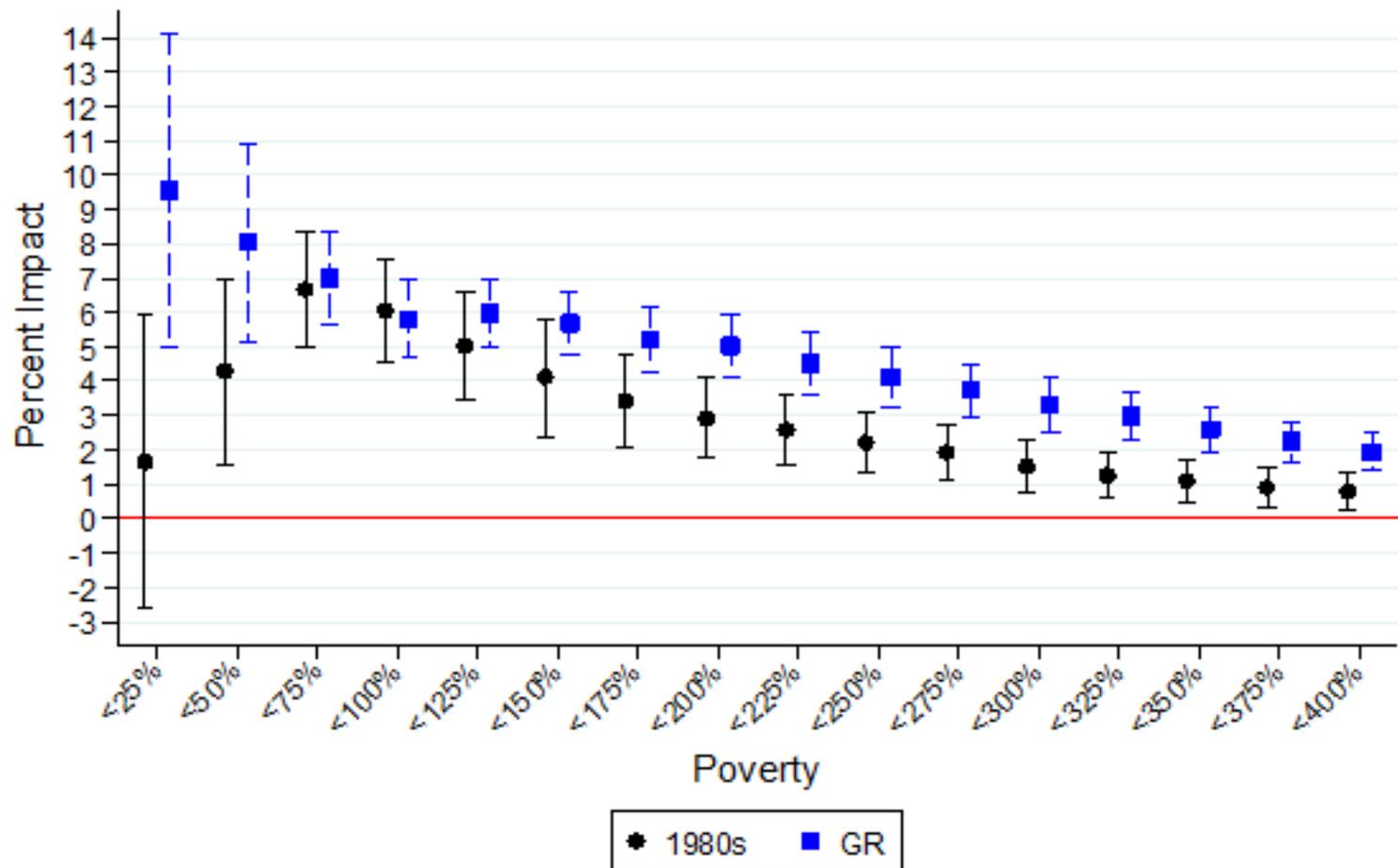
TANF



Food Stamps



Percent Impact of Unemployment Rate on ATTI Poverty 1980s vs. Great Recession



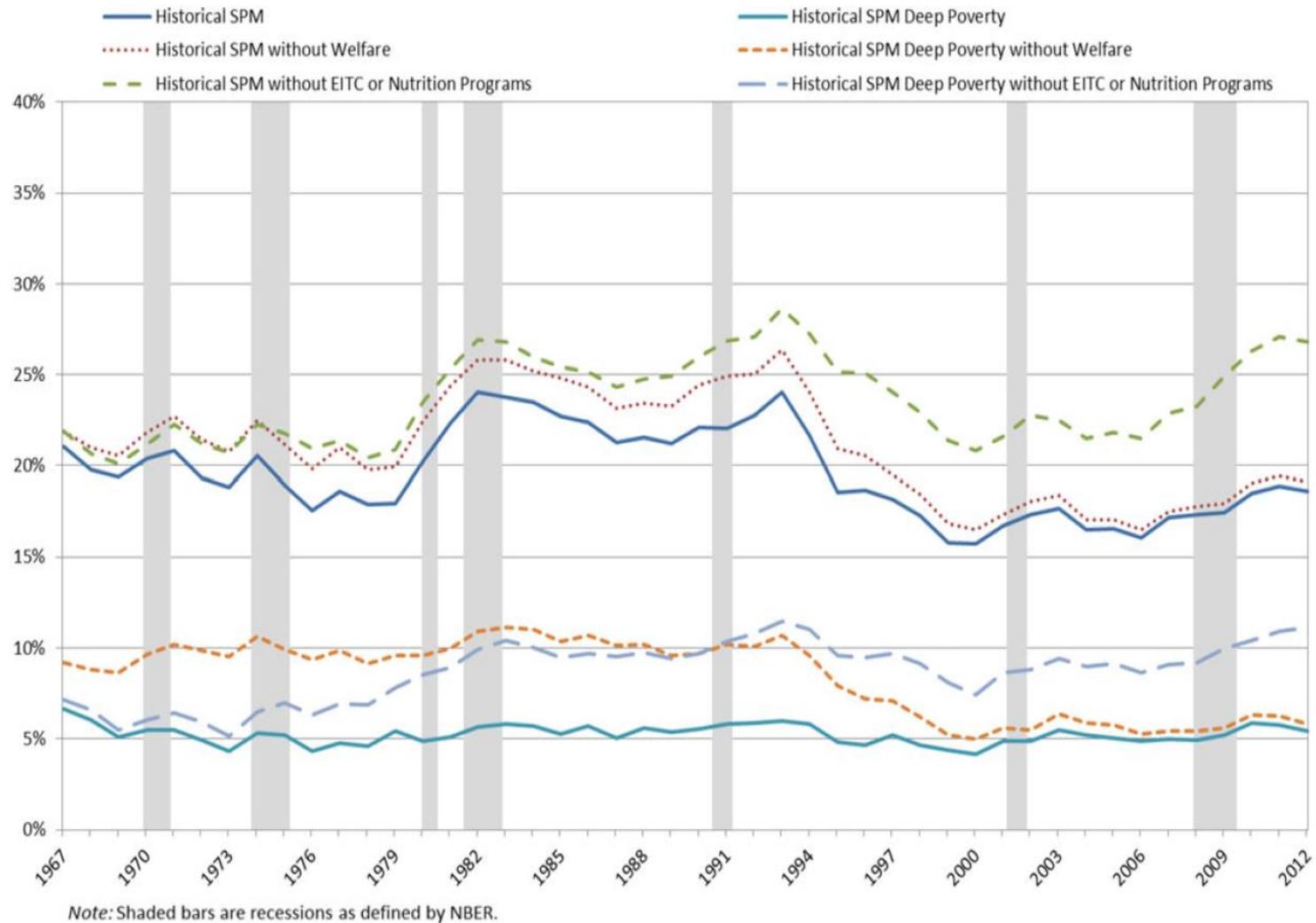
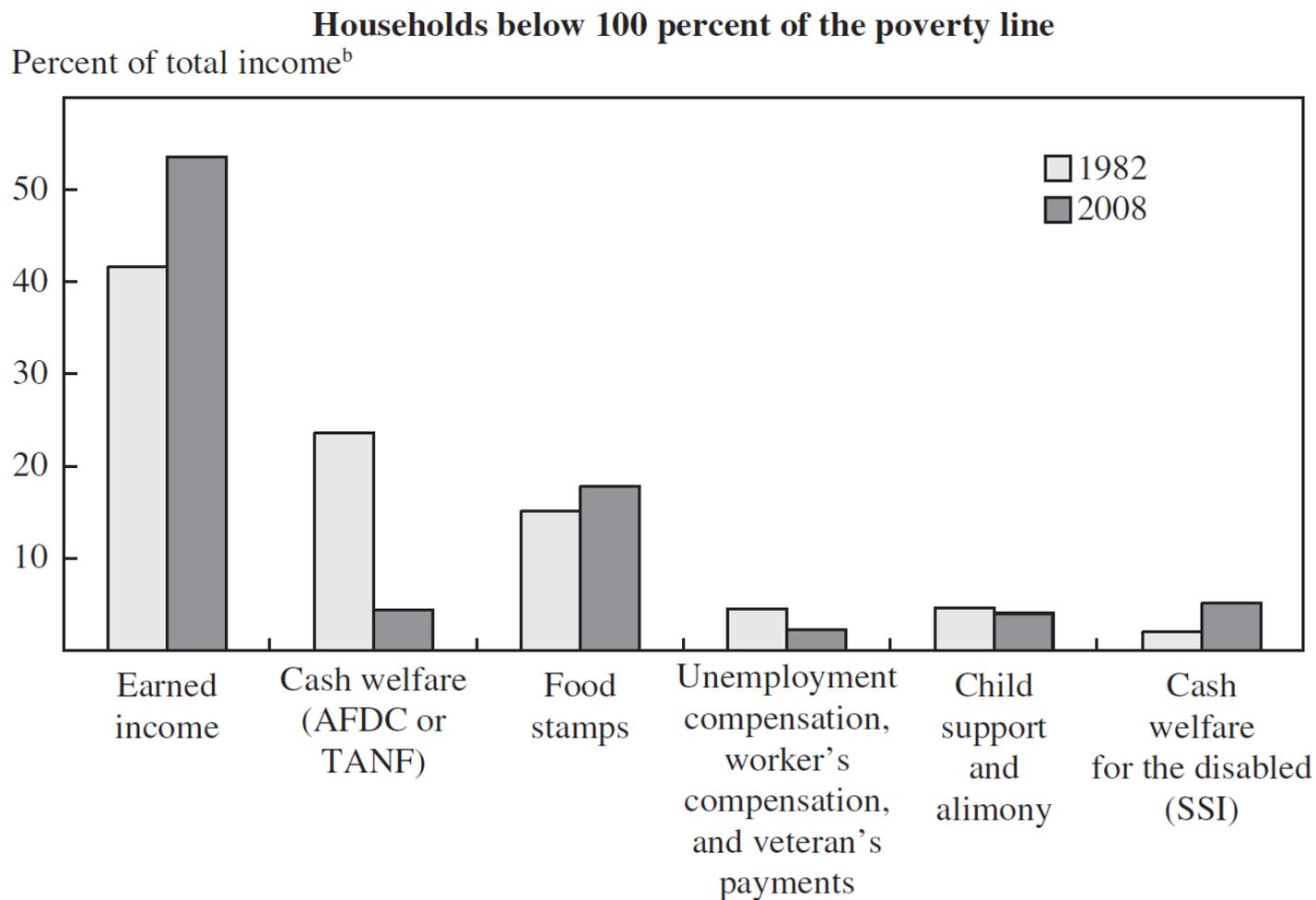


Figure 7. Individual Impact of EITC and Welfare on Child Poverty and Child Deep Poverty, 1967 to 2012.

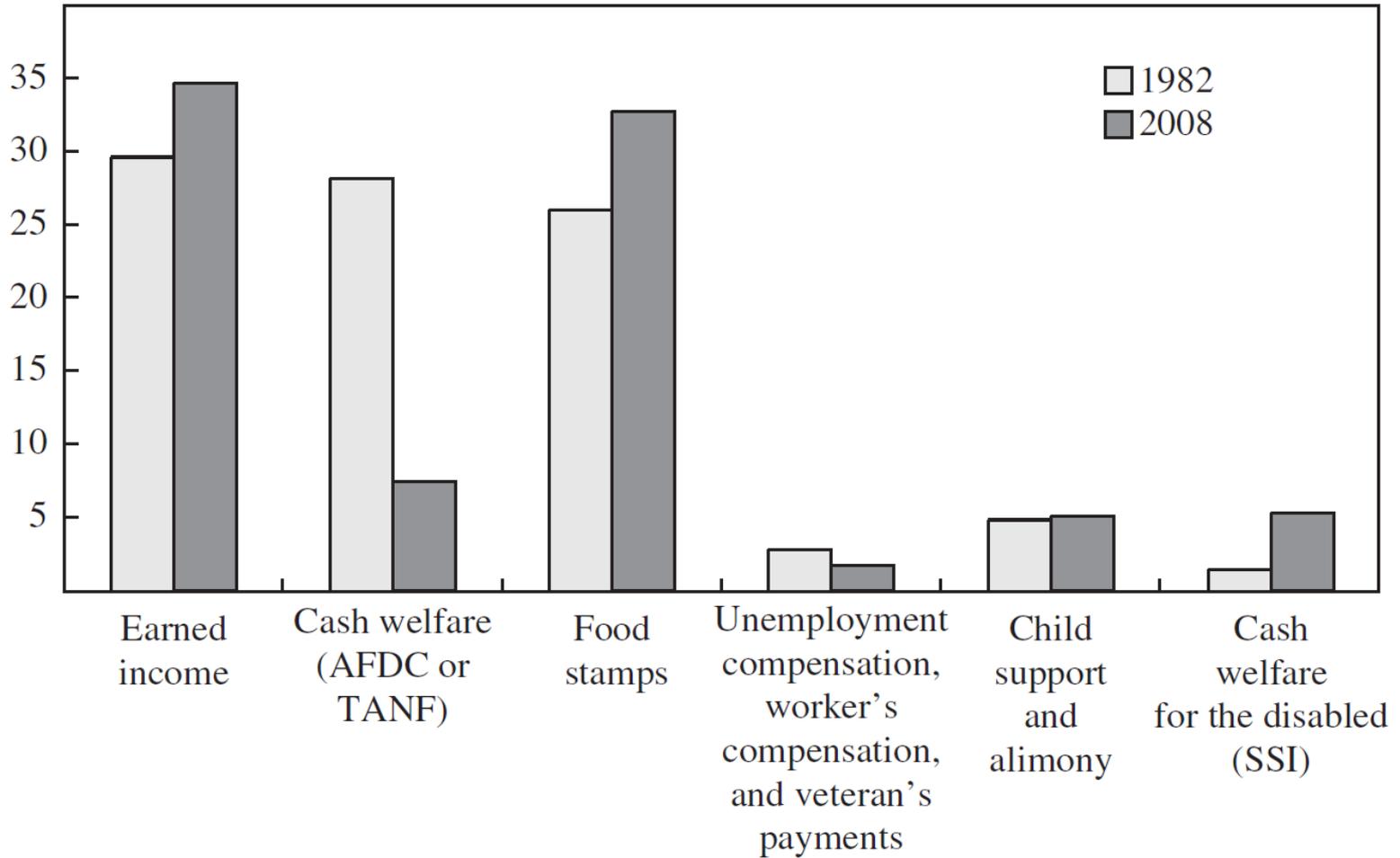
Figure 4. Composition of Income by Source for Households below the Official Poverty Line, 1982 and 2008^a



payments

Households below 50 percent of the poverty line

Percent of total income^b



Obama FY 2017 Proposals

1. increases resources for TANF to help offset 20 years of erosion in TANF funding
2. Requires States to spend 55%-60% of funds on core (assistance + work related + child care); ensures all TANF funds are spent on low-income families,
3. calls on Congress to provide States with more flexibility to design effective work programs in exchange for holding States accountable for the outcome that really matters – helping parents find jobs
4. proposes that HHS be required to publish an annual measure or measures related to child poverty in States
5. Creates a workable countercyclical measure modeled after the TANF Emergency Fund created during the Great Recession

My Hamilton Project Proposal

- Statement of the problem:
- Current structure of TANF does not allow program to expand during economic downturns, when need for program is greatest
 - Share of TANF funds going to cash assistance may be too low; work requirements and time limits may curtail program's effectiveness in recessions
 - Which groups were hurt most by Great Recession, and how TANF could have been a more-effective part of social safety net
- Current structure of TANF (even pre-recession) does not reach many needy families

My Hamilton Project Proposal

- Proposal (still in development):
- Create automatic triggers that would remove or lessen work requirements and time limits during economic downturns
- Create automatic trigger that increase federal block grant during recessions
- [Policy Aim] Increase share of TANF funding that goes to cash assistance
 - Still working on this.
- The policy proposals could be split into those aimed at the “recession problem” versus those aimed at the “permanently poor” problem.

Edin and Shaefer

- \$2 per person per day
- “American poverty has been generally hidden far from view”
- Interviewed 18 families, in Chicago, Cleveland, Mississippi Delta, rural Appalachia
- Identified families with children who had experienced 3 months living with less than \$2 per person per day
- SIPP analysis shows this is 4% of all children, increased over time (get graph from their journal paper)
- Examine forces leading to this change

Their stories / explanations

- “What happens when a government safety net that is built on the assumption of full-time, stable employment at a living wage combines with a low wage labor market that fails to deliver on any of the above.”
- “The government’s emphasis on personal responsibility must be matched by bold action to expand access to and improve the quality of jobs .. We need a safety net for families in crisis, catching them when they fall”
- Low participation: “don’t claim benefits because it doesn't occur to them to do so. ... they think that getting cash from the government is no longer a viable option”
- No matter how desperate the need.

HANDOUT: RESEARCH ON WELFARE REFORM

HILARY HOYNES
PP290

EMPIRICAL MODELS FOR ESTIMATING IMPACTS OF WELFARE REFORM

Standard difference-in-difference of implementation:

$$y_{ist} = X_{ist} \delta + L_{st} \alpha + R_{st} \beta + \gamma_s + \nu_t + \varepsilon_{ist}$$

y_{ist} = outcome variable for individual or group i

X_{ist} = individual or group level controls (e.g. age, education, race/ethnicity, central city)

L_{st} = state level controls: labor market opportunities and other state programs (AFDC benefit level, UP program, Medicaid generosity)

ν_t = year fixed effects

γ_s = state fixed effects

R_{st} = welfare reform variables

$WAIVER_{st} = 1$ if state s has implemented waiver in t

$TANF_{st} = 1$ if state s has implemented TANF in t

SHOW THIS IN DIFFERENCE IN DIFFERENCE TABLE FORM

In this model, effects of welfare reform come from variation across states in timing and presence of state reforms.

Valid source of identification for waivers (rich variation on presence and timing of waivers)

Challenges to identifying impacts of TANF (e.g. Blank 2002):

TANF reform (1997+) occurs at the same time the economy is booming, and federal and state policies are being expanded for the poor (EITC, minimum wages, Medicaid)

Variation across states in TANF is limited: All states implement TANF in 16 month period between Sept 96 and Jan 98.

How to solve the identification problem?

1. Estimate typical model and use available variation in TANF
2. Add control groups (not affected by welfare)
3. Use detailed characteristics of state TANF programs (detailed policies implemented in states, etc)
4. Some papers replace reform variable with measure of caseloads (to capture direct effects of reform)
5. Use experimental methods

RESEARCH ON WELFARE REFORM

There are a lot of studies using non-experimental and experimental approaches. The outcomes examined include:

Caseloads:

- significant declines attributed to welfare reform and waivers;
- decline in caseload comes from reductions in entry into welfare as well as increases in exits from welfare
- Some evidence that part of the decline is people anticipating limits and “banking their time limits” – but unclear if this is really what is going on

Employment, earnings

- Employment increases, hard to differentiate between economy, TANF and EITC. But clearly TANF is part of this (and debate on the magnitudes)

Income

- Does “work pay” would we expect income to increase? Returning to basic budget set, expect not (unless there is a strong job ladder whereby wages increase with tenure which there isn't)
- For low skilled and hard to employ, the loss in transfer income offsets the gain in earnings
- Increase in mysterious “disconnected women” [not working, with no visible means of support]
- However this is challenged by poor measurement of income in survey data, that is getting worse over time
- Work focusing on consumption data shows evidence that WR has led to increases in consumption, though moderate in size.

Health

- Health insurance decreases, at least for women (no Medicaid)
- Some evidence that health of women declines, but hard to know for sure

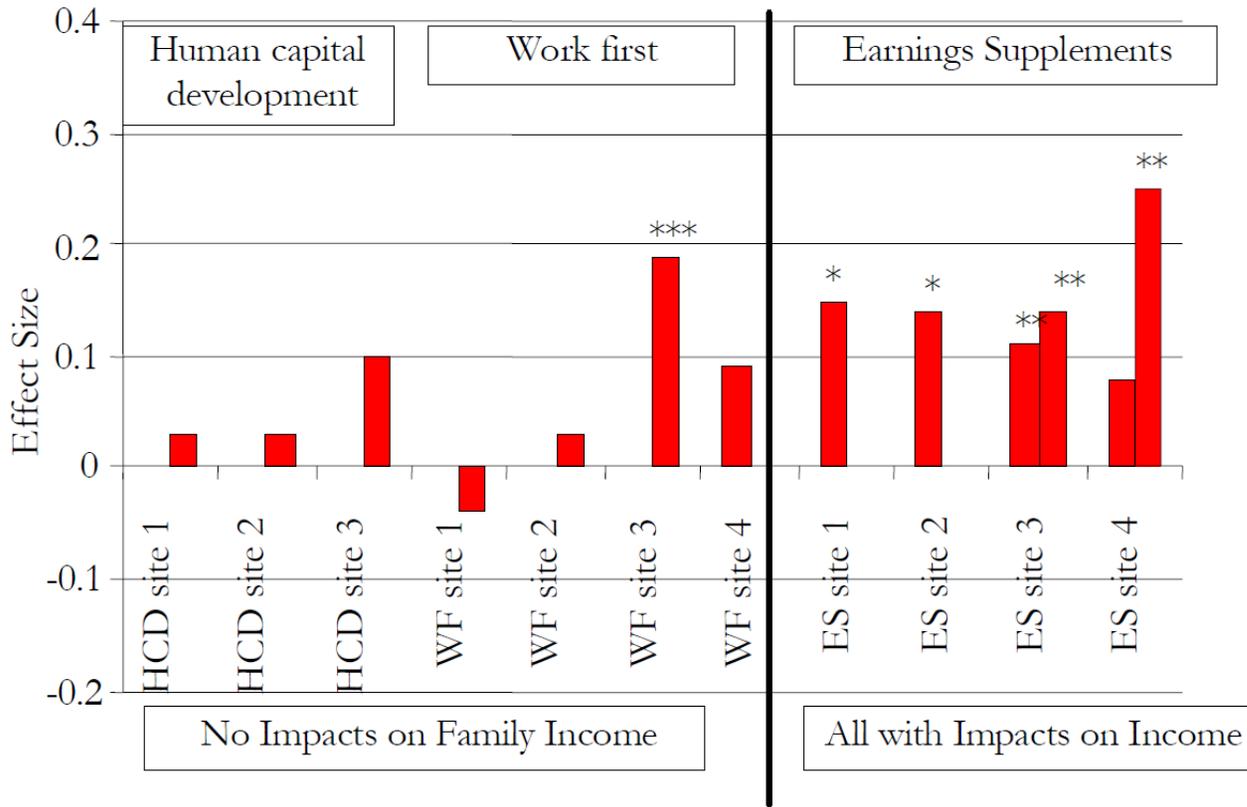
Family structure – marriage, fertility, living arrangements

- Very small changes, not all consistent with goals of reform
- Mixed evidence though; overall just not very important determinant of these decisions
- Generally hard for social policy to affect outcomes such as teen births. Paper on MTV's "16 and Pregnant"

Child outcomes – mostly from experimental evidence

- Some evidence that younger children are doing better (or at least not worse) yet adolescent children are doing worse (no monitoring?)
- Maybe reductions in high school drop out rates?

Figure 4: Impacts of Welfare Programs on Young Children’s Achievement



Source: Based on data from Morris *et al.* (2001).

“HCD” (Human Capital Development) were designed to provide basic and job-related skills to participants.

“WF” (Work First) emphasized the importance of getting a job.

“ES” (Earnings Supplement) provided incentives for work in the form of earnings supplements

Suggestive that effects on children are larger with income enhancements as part of reform

USING QUANTILE TREATMENT EFFECTS TO ESTIMATE THE EFFECTS OF A POLICY REFORM ON SOMETHING OTHER THAN THE MEAN

APPLICATION TO WELFARE REFORM

“What Mean Impacts Miss: Distributional Impacts of Welfare Reform Experiments” AER 2006, Bitler, Gelbach and Hoynes

Purpose of our paper:

- explore heterogeneity in the impact of this treatment
- what can be estimated in experimental context without any further assumptions, maintaining nonparametric appeal of the experimental estimators
- in our application, the theory predicts negative impacts on labor supply for some and positive impacts on labor supply for others.

Quantile Treatment Effects (QTEs)

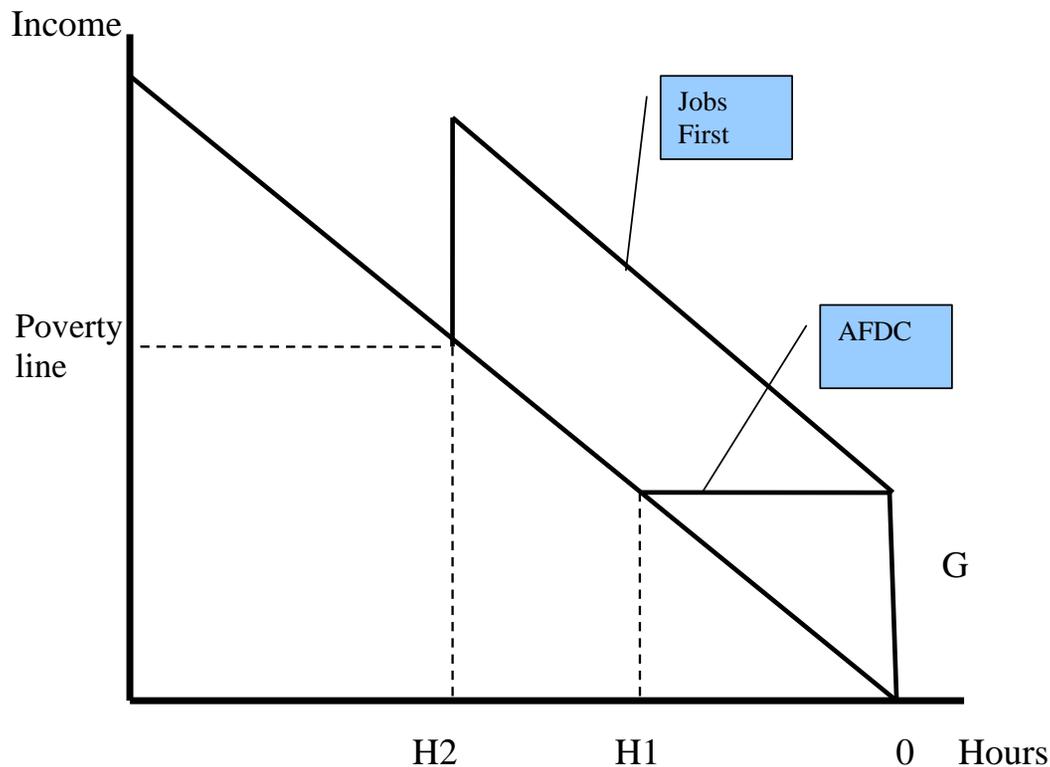
- No other assumptions are required beyond random assignment
- QTE estimates the impact of the treatment on the *distribution of outcomes*.
- The QTE is analogous to the assumption-free mean impact

We use a randomized experimental based on Connecticut's welfare waiver

Time limit 21 months (shortest in US)

Earnings disregard (tax rate reduced from 100% to 0%). Recipients can keep entire welfare benefit until earnings reach the poverty line.

Figure 1: Stylized Budget Constraint for AFDC and Jobs First



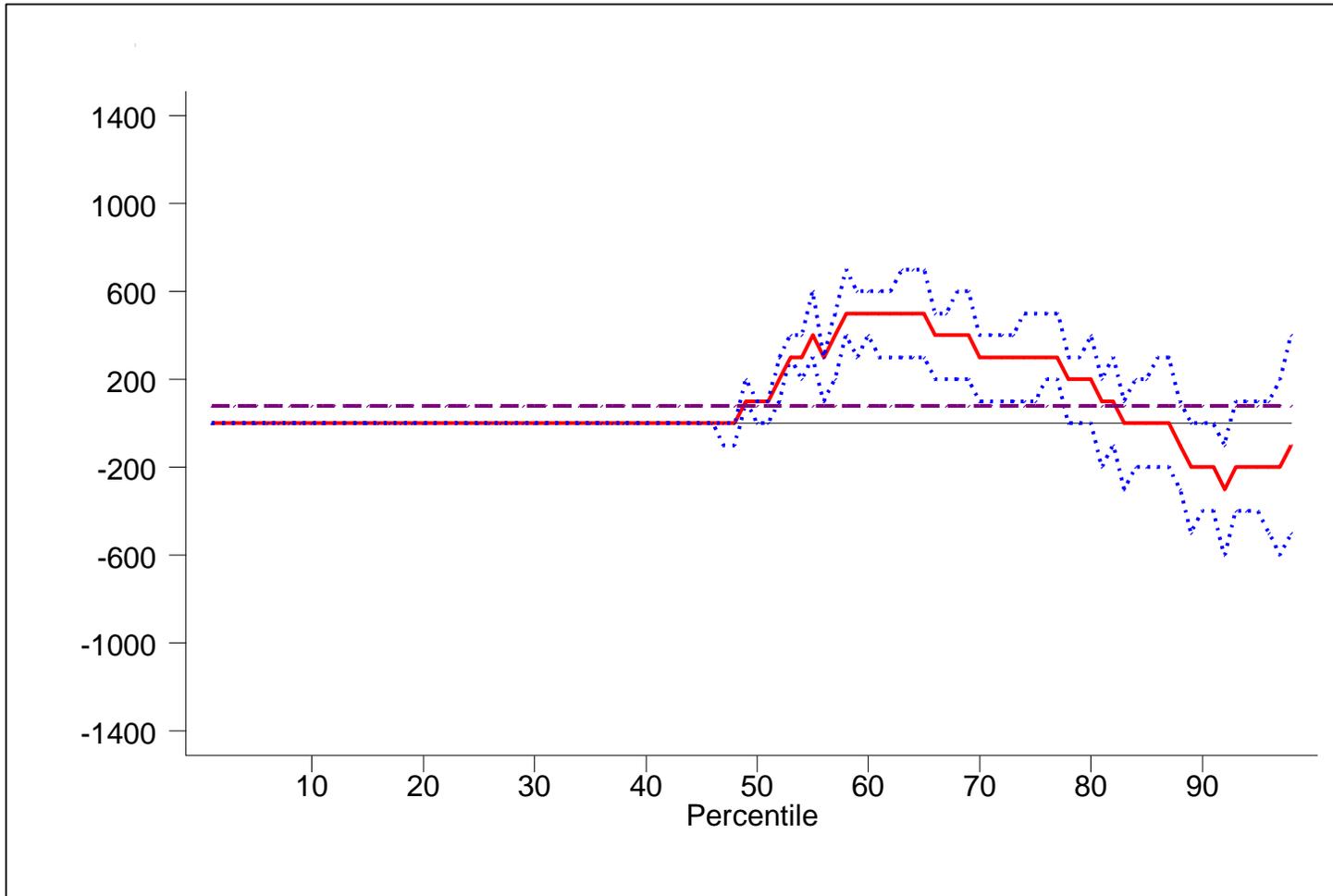
Labor supply predictions:

- Participation (emp) increases
- Incentive to increase hours at the bottom of the distribution ($H=H_1$)
- Incentive to decrease hours higher up the distribution ($H>H_1$)

Bottom line:

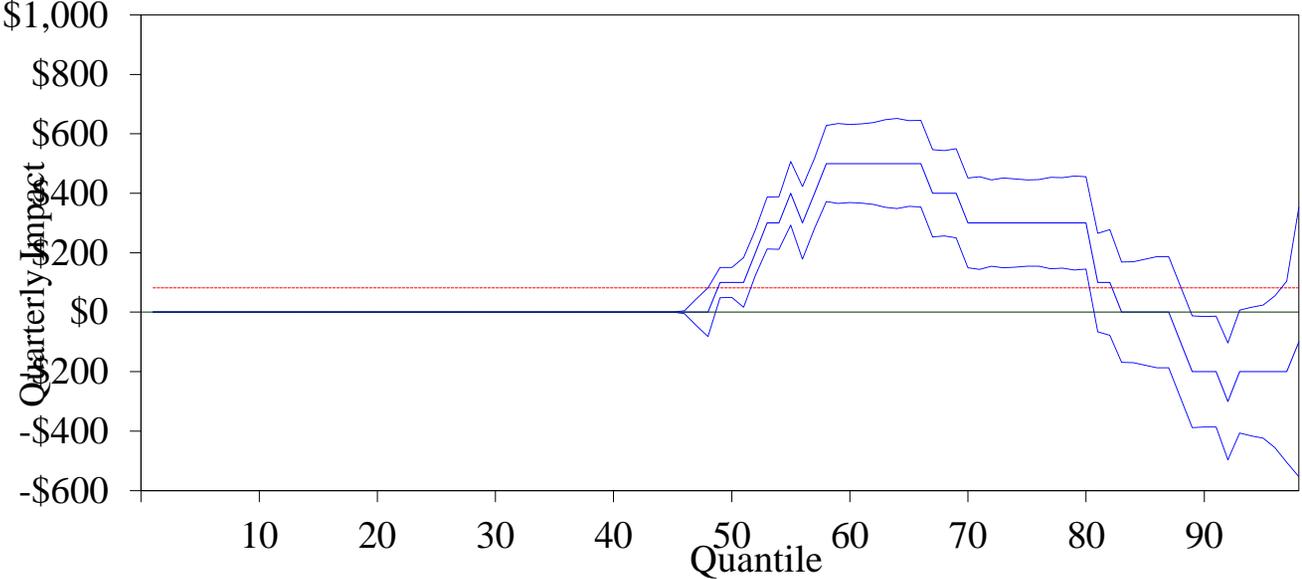
- ❖ Predicted effects of JF are heterogeneous
- ❖ Mean effects may mask positive and negative effects
- ❖ We also derive predictions for effects on labor supply AFTER time limits and on transfer income and total income.

- The labor supply prediction:
 - Extensive margin: increases in employment
 - Intensive margin: increase in hours at the bottom and declines in hours at the topis an inescapable feature of income support programs.
- All income conditioned programs have some “phase-out” range. The phase-out may be at a low rate (EITC), at a high rate (traditional welfare programs) or with a cliff (Jobs First).
- Thus, these results are relevant for the broader literature on income support programs.



Here are the main results for labor supply (earnings) prior to time limits.
Consistent with theoretical predictions.
Very different from mean impacts.

Figure 3: Quantile Treatment Effects on Distribution of Earnings, Quarters 1-7



QTE for earnings before and after time limits.

Figure 4: Quantile Treatment Effects on Distribution of Earnings, Quarters 8-16

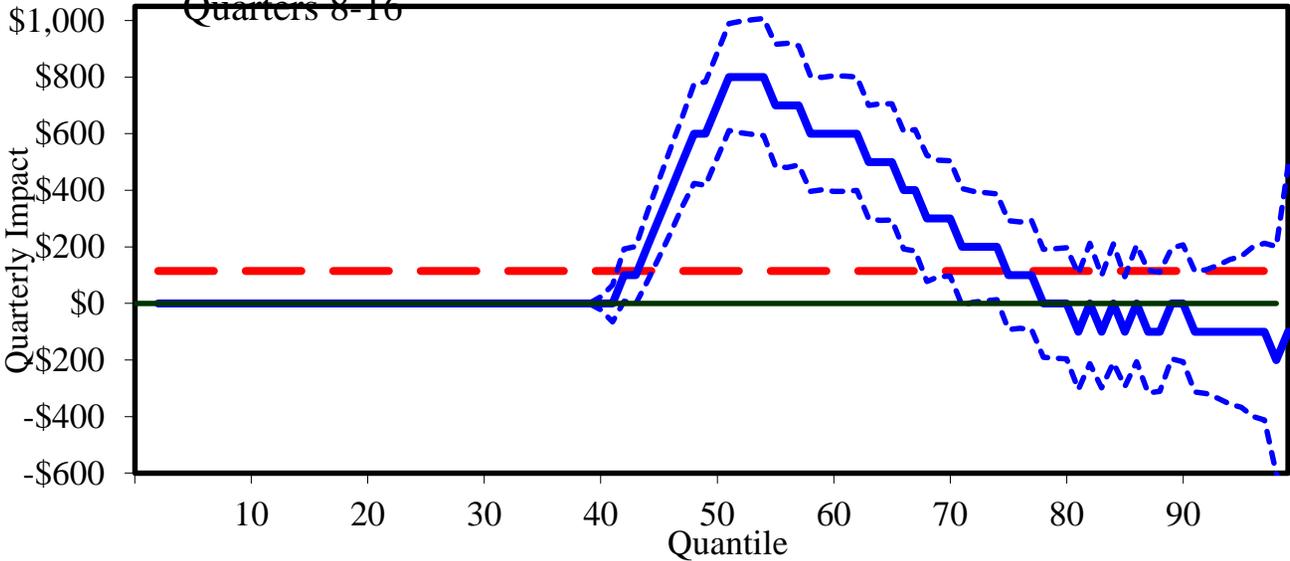
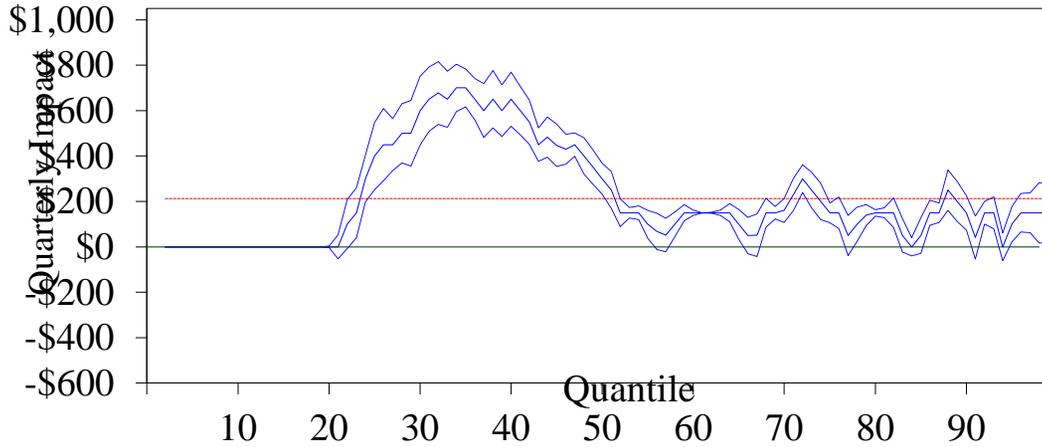


Figure 5: Quantile Treatment Effects on Distribution of Transfers, Quarters 1-7



Transfers before and after time limits.

Figure 6: Quantile Treatment Effects on Distribution of Transfers, Quarters 8-16

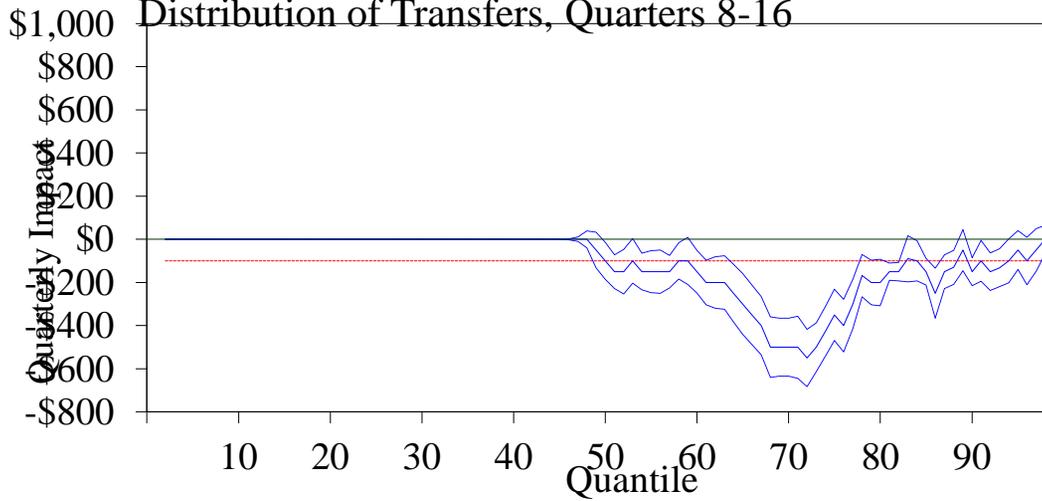
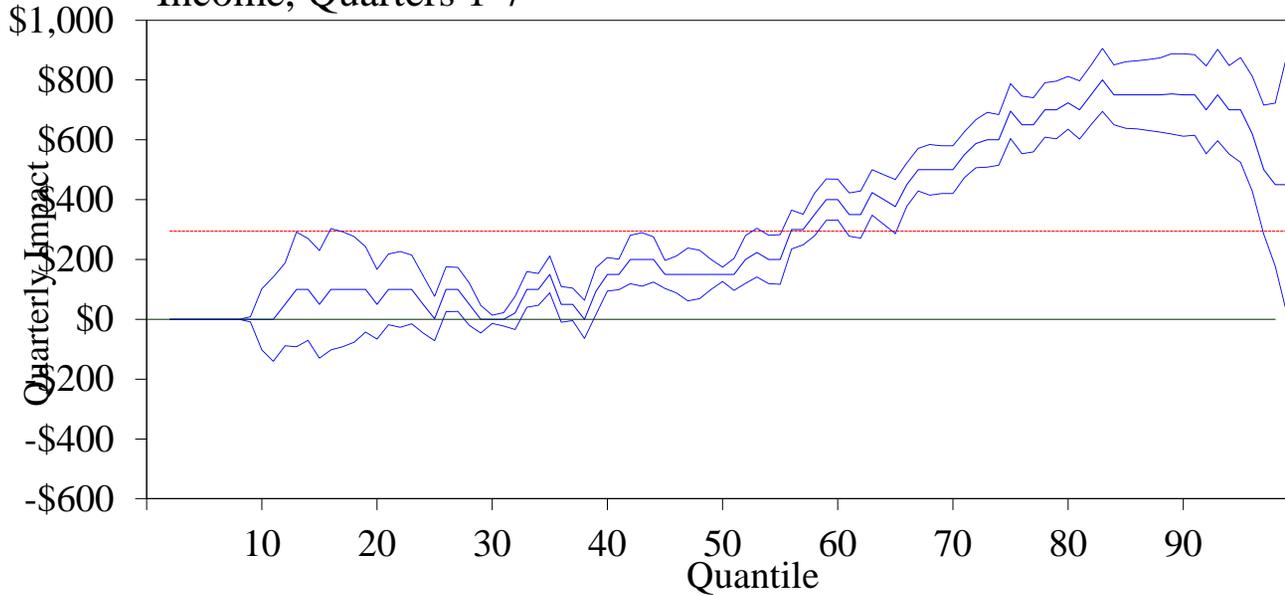
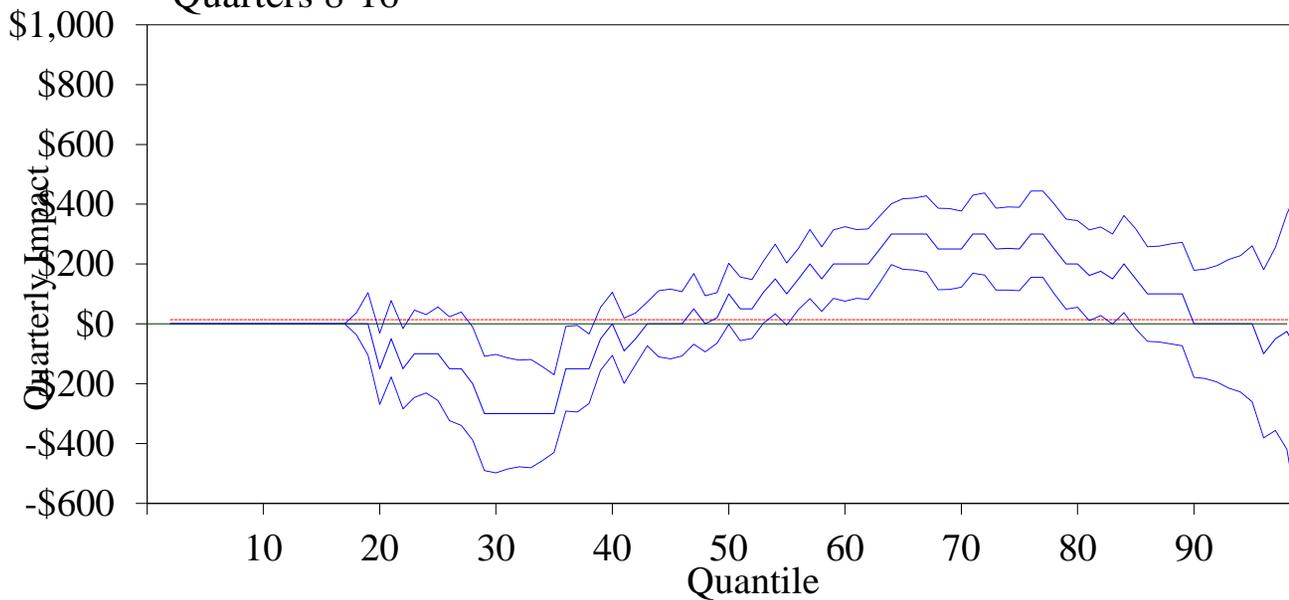


Figure 7: Quantile Treatment Effects on Distribution of Income, Quarters 1-7



Transfers before and after time limits.

Figure 8: Quantile Treatment Effects on Distribution of Income, Quarters 8-16



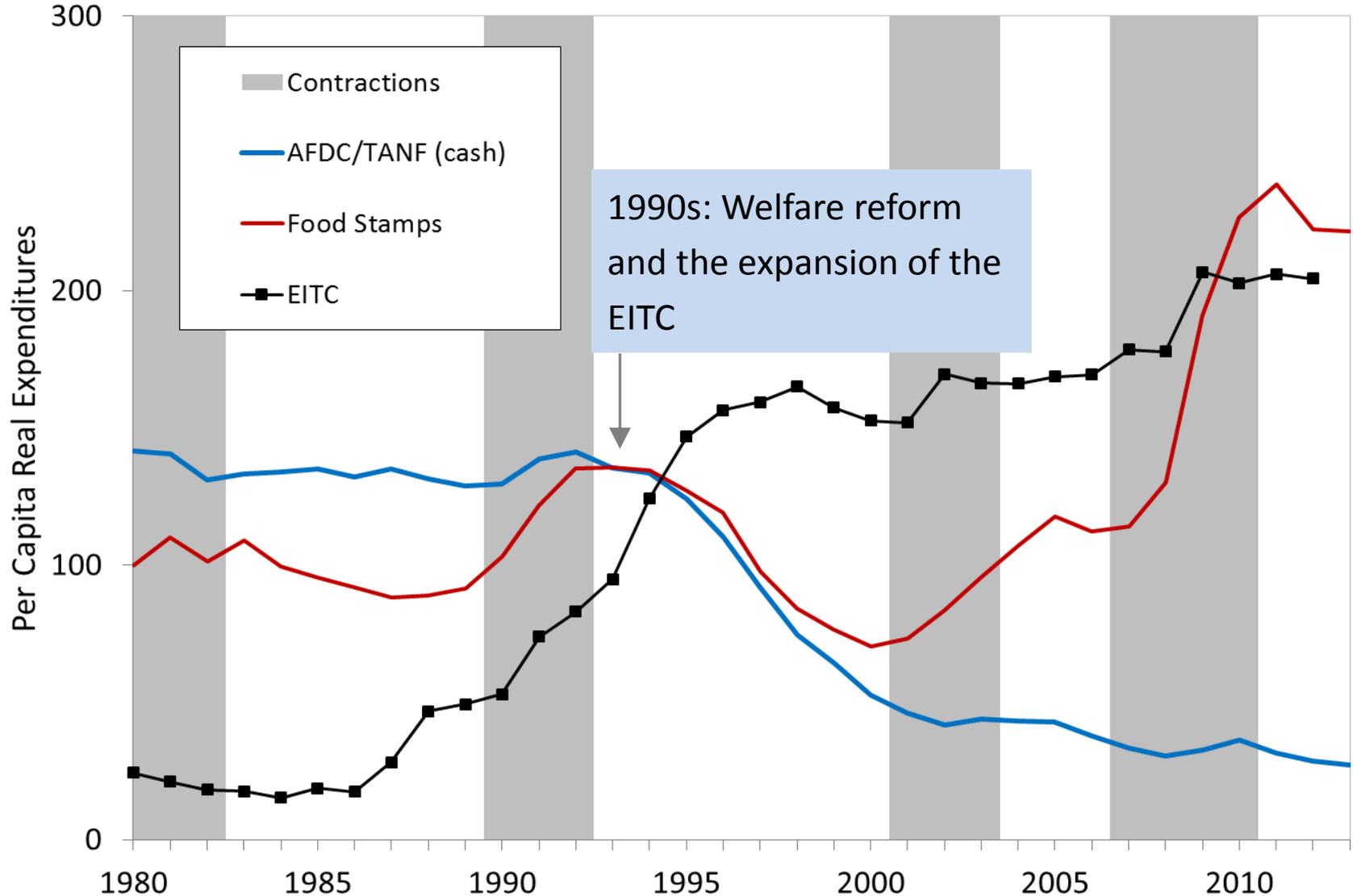
The Earned Income Tax Credit

PP290

Hilary Hoynes

- 1990s: two things were part of the major policy change → decline of welfare and rise of the EITC
- Movement from out of work assistance to in work assistance

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



Source: Bitler and Hoynes "The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession," forthcoming *Journal of Labor Economics*.

Outline of lecture

1. Policy setting and goals: The EITC (and the Child Tax Credit)
2. Predictions: Effects of EITC on labor supply, poverty and family well being
3. Evidence on Goals of EITC: Including Hoynes and Patel: Example of difference in difference analysis
4. Quick summary of the larger literature
5. Case Study: CA State EITC

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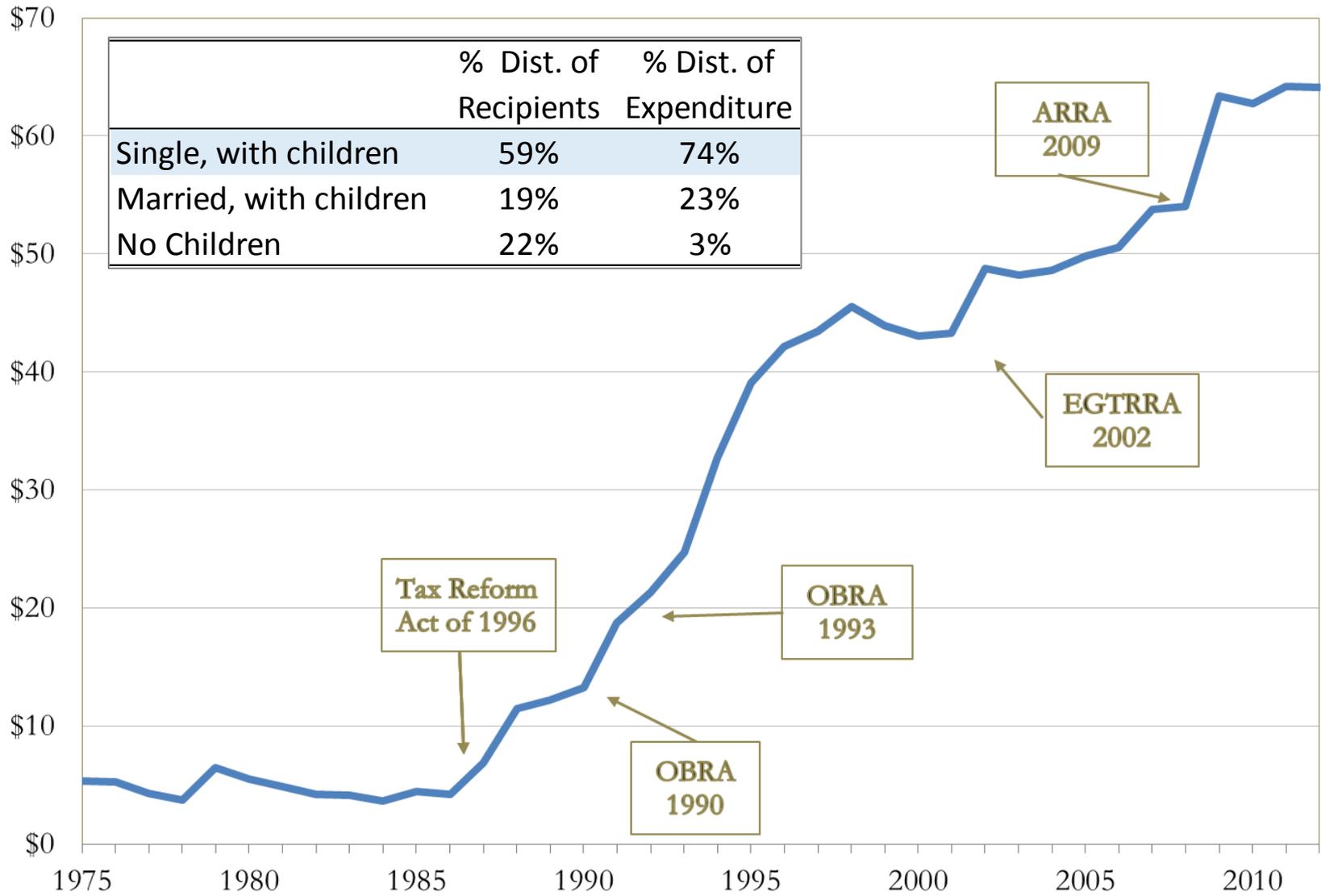
(Presumed) Goals for EITC

1. Distributional – transfer funds to low- to moderate-income families with children
2. Encourage work
3. Limit administrative costs – encompasses program administration and compliance

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)
- Qualifying child: <19 (or <24 and a FT student), lives with the taxpayer for more than half the year, has a valid social security number
- Credit indexed to inflation (since TRA86)

EITC, Billions of 2012 Dollars



EITC Eligibility and Benefits

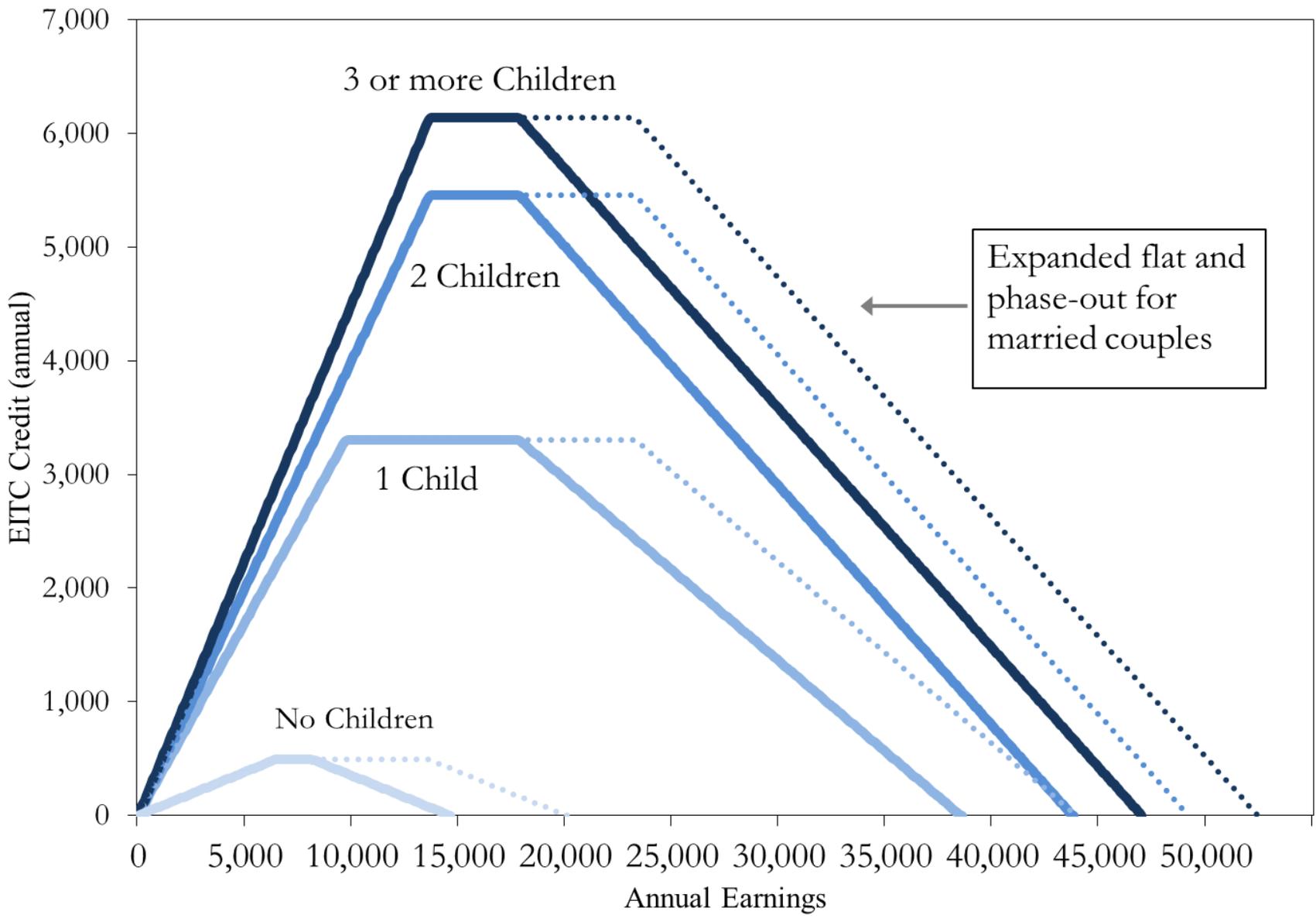
- EITC Eligibility
 - All family types are eligible
 - Primarily provides benefits for those with children
 - Must have earned income; based on family income
- EITC Benefits
 - Phase-in (constant subsidy rate on earnings)
 - Flat
 - Phase-out (constant benefit reduction rate)
- The phase-out rate is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

The EITC eligibility and benefits

- Phase in, $C = \tau_s * E$ for $0 < E < E_s$
- Flat, $C = C_{max}$ for $E_s < E < E_f$
- Phaseout, $C = C_{max} - \tau_p * (E - E_f)$

- C = credit amount
- C_{max} = maximum credit
- τ_s = subsidy rate
- τ_p = phase out rate
- E_s = end of subsidy range
- E_f = end of flat range

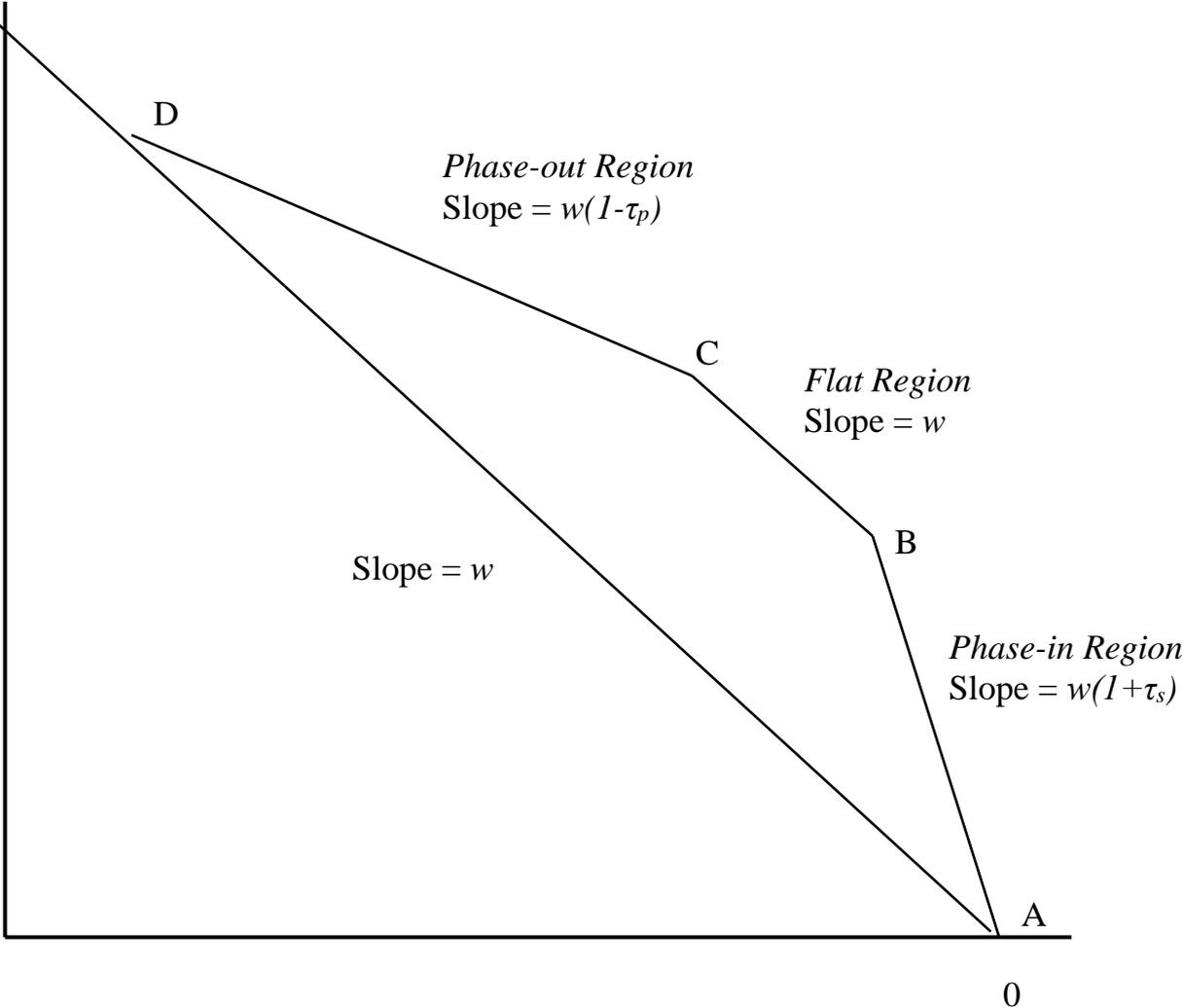
EITC Schedule 2014



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After Tax and
Transfer
Income



Labor Supply Effects of the EITC

- Extensive margin
- Intensive margin (break down into)
 - Phase-In
 - Flat
 - Phase-out
 - Above Phase-out
- Income and substitution effects

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.

Other economic effects of the EITC

- The EITC affects after-tax-and-transfer income through:

Static
Effect

– *Credit effect*: direct EITC payments

– *Earnings effect*: extensive margin leads to increase in earnings

Dynamic
Effects

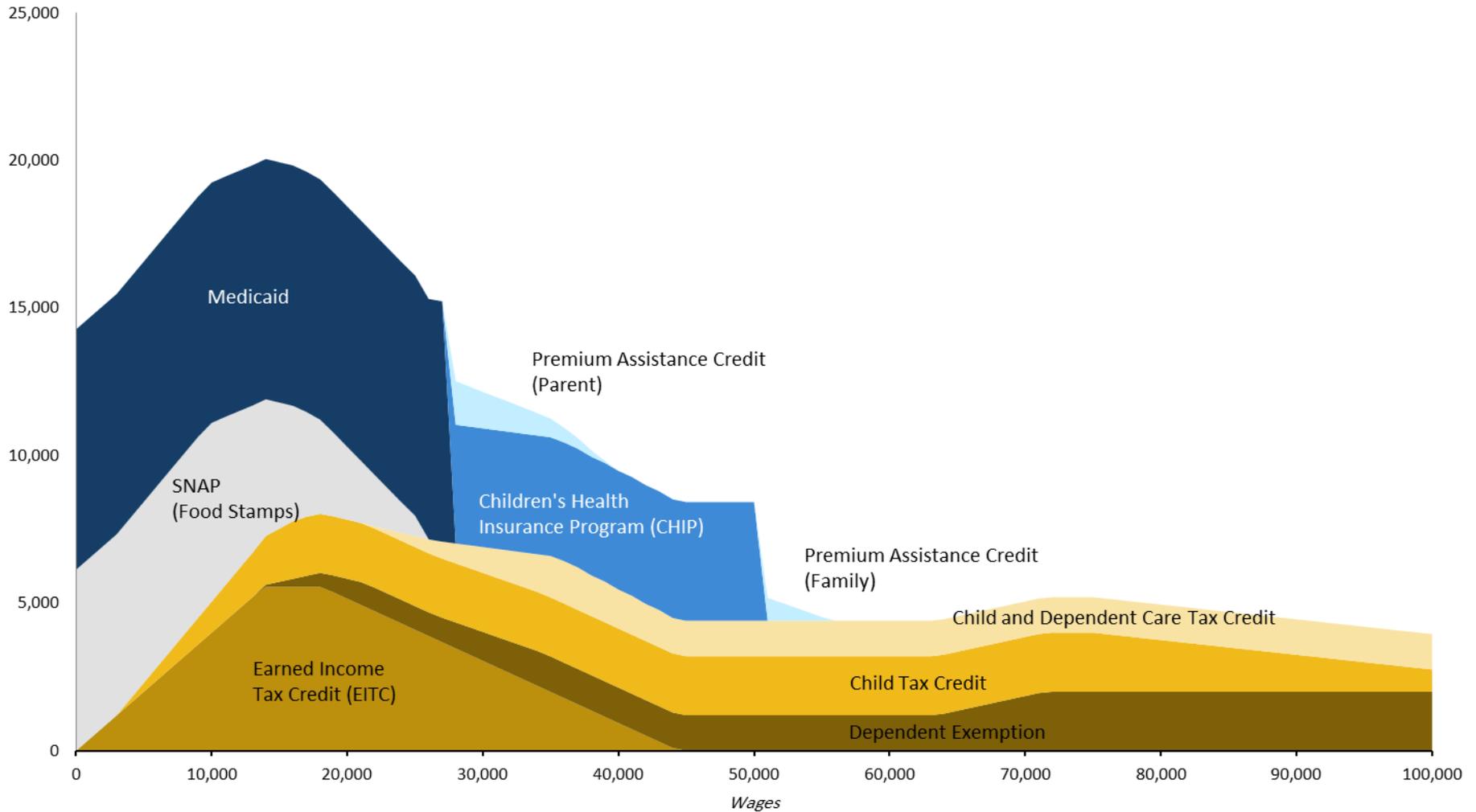
– *Income adjustment effect*: offsetting reduction in public assistance (SNAP, TANF) as earnings increases

- Self-employed face incentives to increase reporting of earnings if in phase-in; incentive to reduce reporting if in phase-out (or above)
- Creates marriage penalties for some (both working), marriage subsidies for others (one working, child resides with nonworking parent). Also pro-fertility incentives due to increase in credit with size of number of children.
- Incidence: part of the benefit of the subsidy may be captured by employers (in lower pre-tax wages), also creating negative spillover effects for uncovered workers

Connection to other policies for low income families

Tax and Transfer Benefits for Universally Available Programs

Single adult with two children, 2015



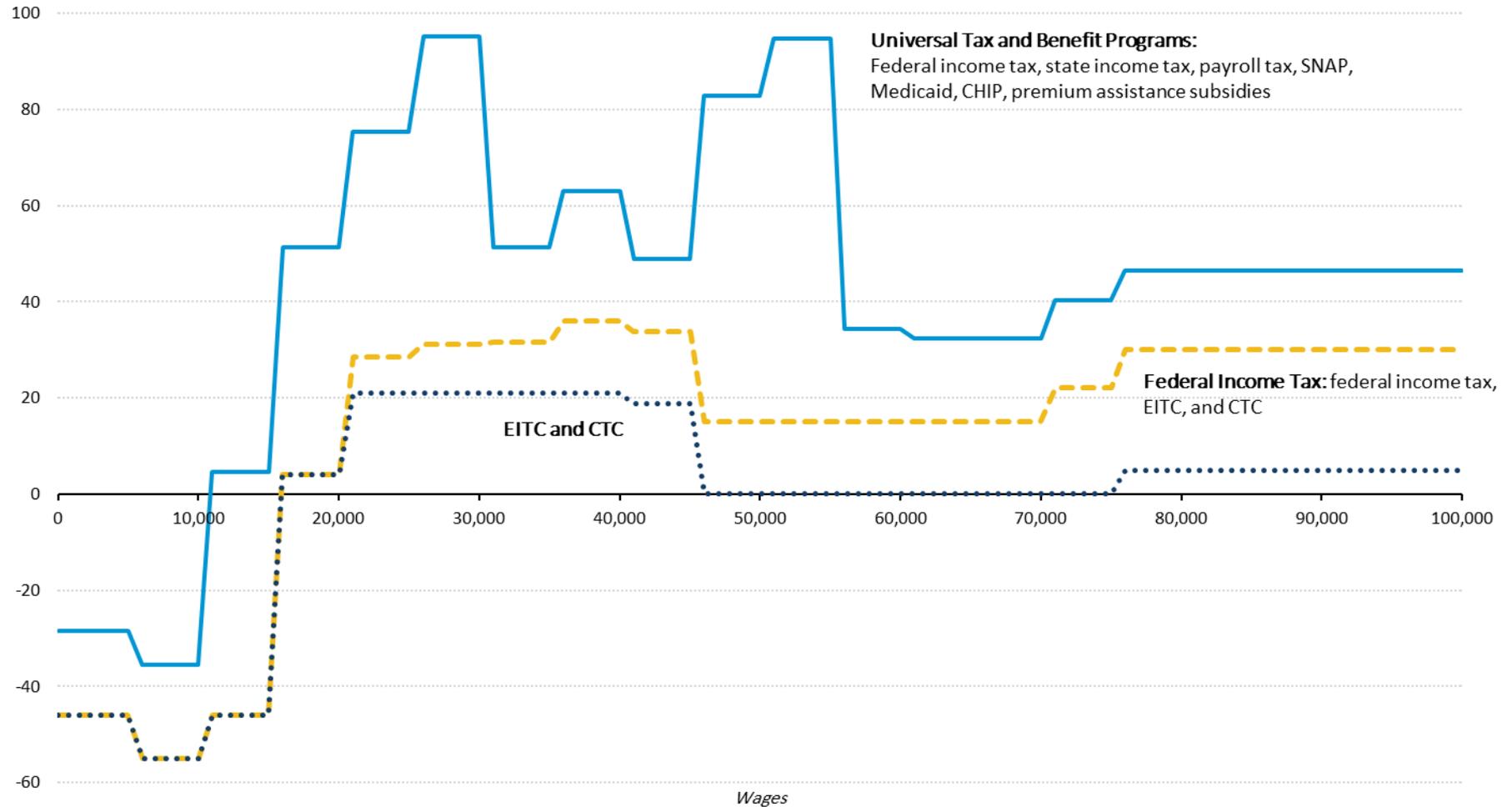
Source: Eugene Steuerle and Caleb Quakenbush, 2015. Washington, DC: Urban Institute.

Notes: Estimated value of tax and transfer benefits for a single parent with two children living in Colorado. Premium assistance credit excludes the value of penalties paid by employers on the beneficiaries' behalf and the value of additional cost-sharing subsidies. Health coverage and quality of services provided varies by source: Medicaid and CHIP benefits are more comprehensive and have less cost-sharing than those in the exchange. Medicaid and CHIP also pay providers for services at lower rates than private insurers.

Effective Marginal Tax Rates

Single adult with two children, 2015

Marginal Tax Rate per \$5,000

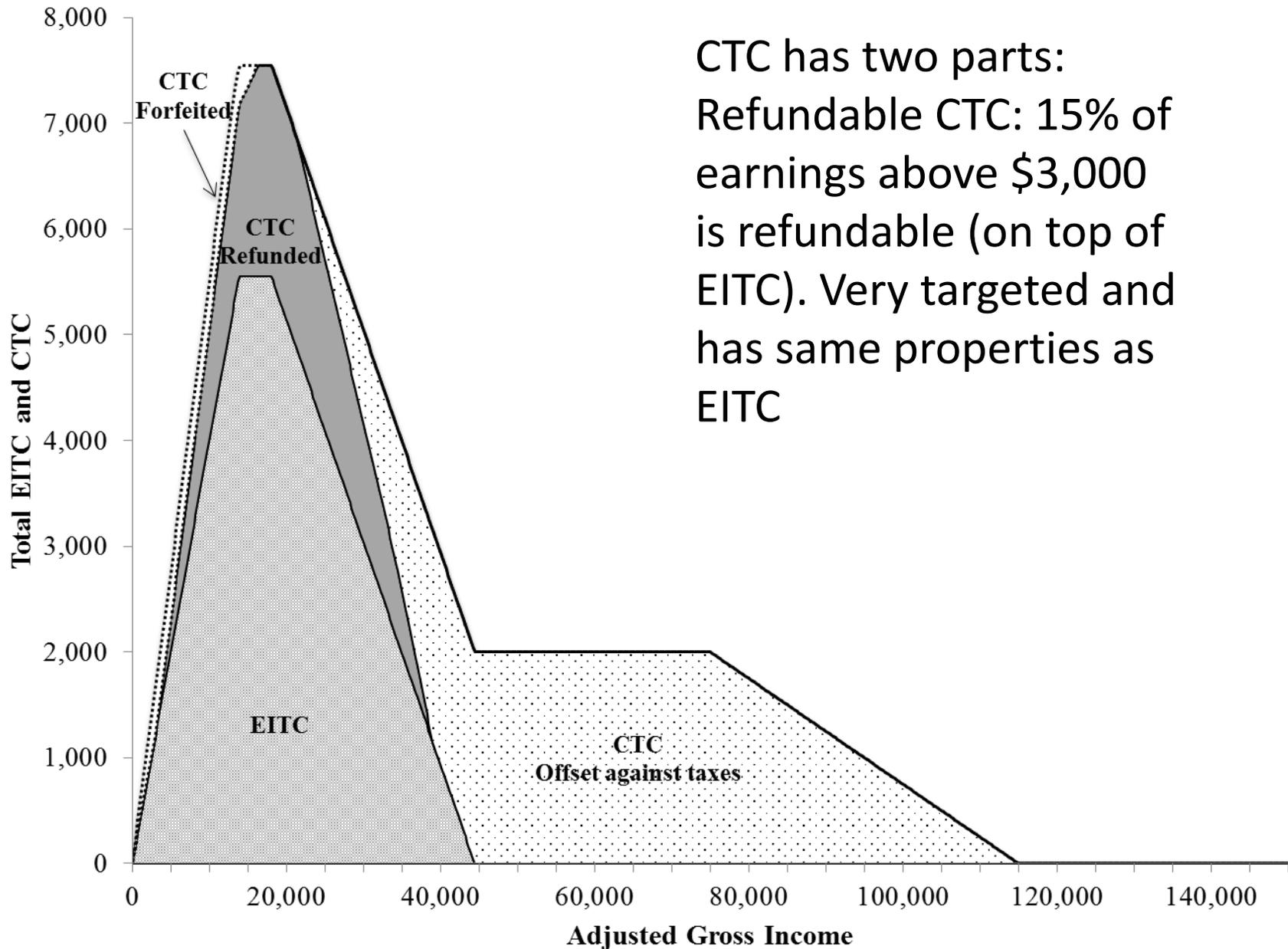


Source: C. Eugene Steuerle and Caleb Quakenbush. Urban Institute. 2015.

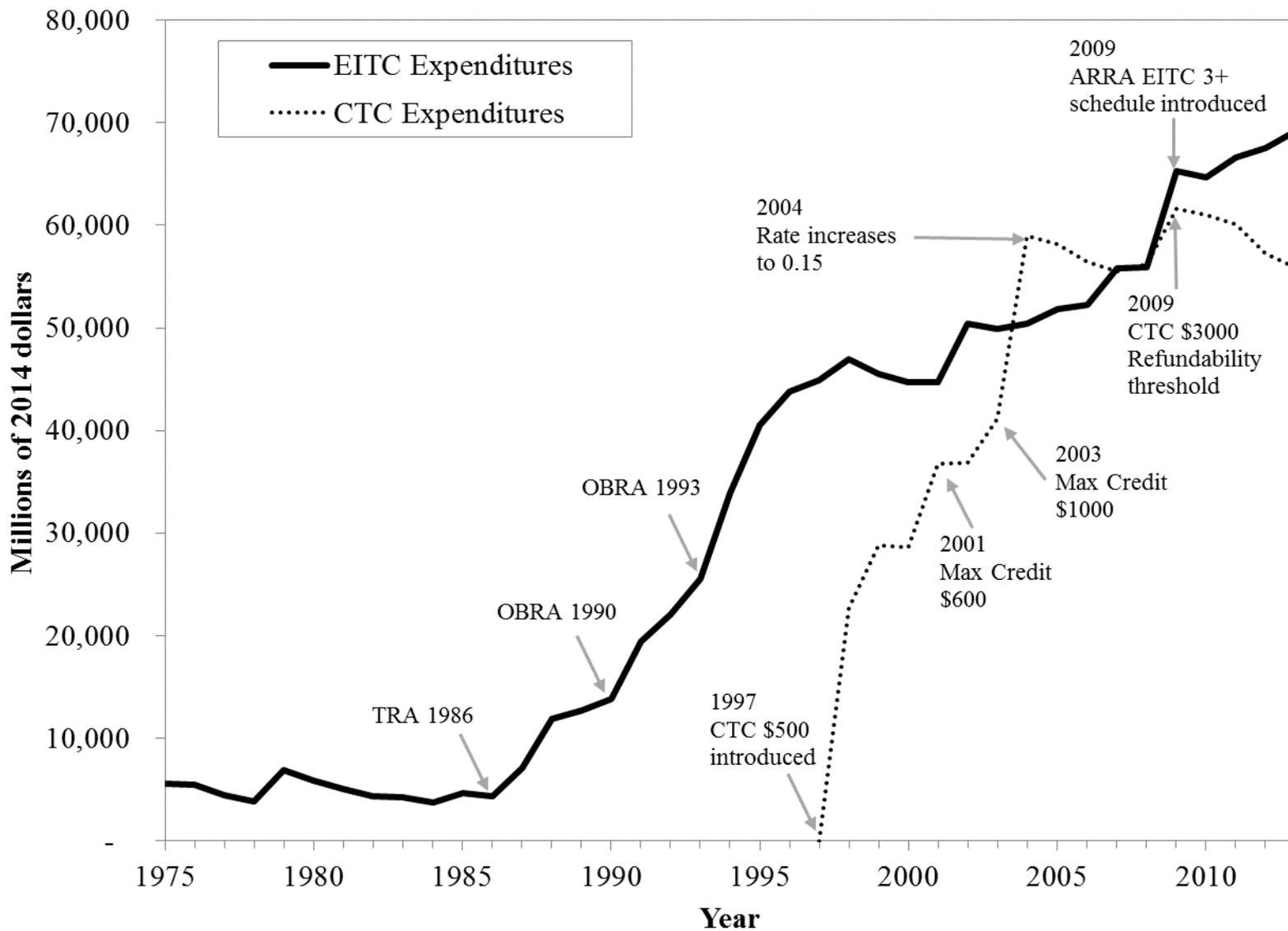
Notes: Average effective marginal tax rates facing a single parent with two children living in Colorado. The effective marginal rate is the marginal tax rate is calculated using changes in net income after taxes and transfers given changes in total compensation, which includes employee wages and the employer share of payroll taxes. The tax rate is then smoothed in \$5,000 increments.

Connection to other policies for low income families

Earned Income Tax Credit	Child Tax Credit
Refundable tax credit Started in 1975 Schedule for 1, 2, 3+ children	Refundable (not fully) tax credit Started in 1997 \$1000 per child
\$68 billion total tax cost 44% of all filers with children	\$56 billion total tax cost
Targeted	Untargeted
Indexed	Not Indexed



CTC has two parts:
 Refundable CTC: 15% of earnings above \$3,000 is refundable (on top of EITC). Very targeted and has same properties as EITC



Outline of lecture

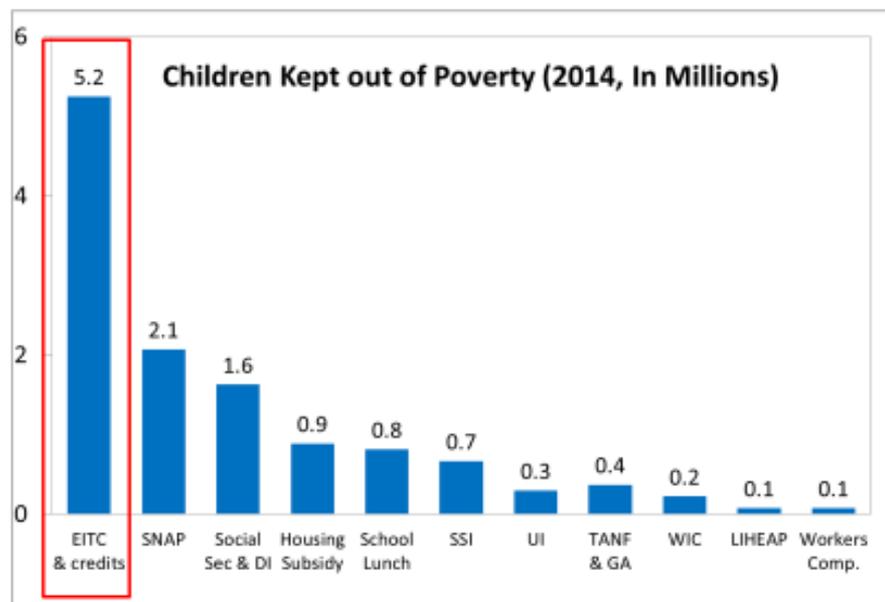
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Evidence on Goals: I. Static Distributional

- EITC is successful at meeting the distributional goal (transfers to low- to moderate-income families with children)
- CTC performs poorly at transferring income to the neediest families
- Supplemental poverty measure (2014) shows combined effect of EITC and (refundable) CTC lead to reduction in poverty rates:

- Children: reduces poverty from 23.8% to 16.7%
- All Persons: reduces poverty from 18.4% to 15.3%

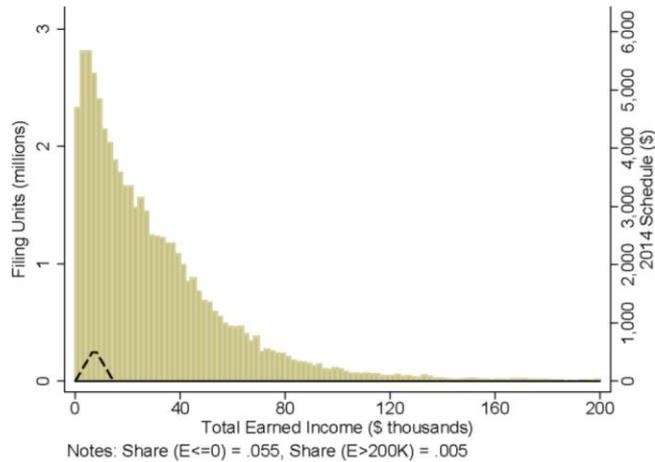
Static calculations of the antipoverty effects (based on SPM)



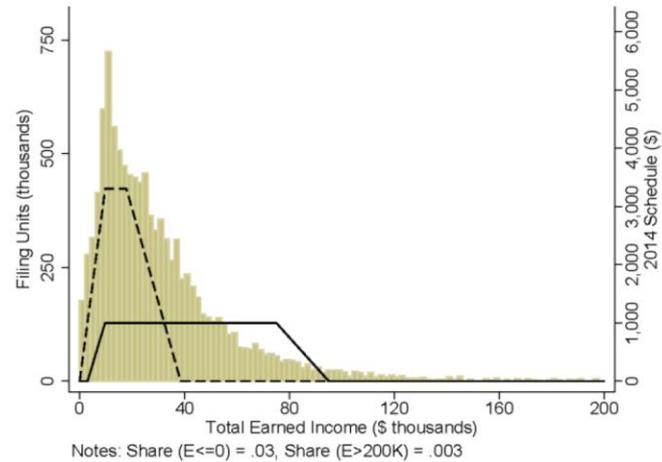
Source: Calculations based on *Supplemental Poverty Measure, 2014* (Kathleen Short), U.S. Department of Census, Current Population Report P60-254.

Potential Filers: Distribution of Earnings for Head of Household Filers, 2014

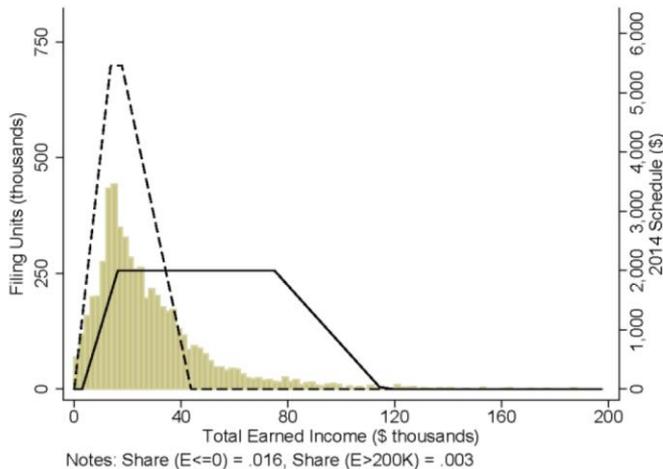
(a) Single filer, no children



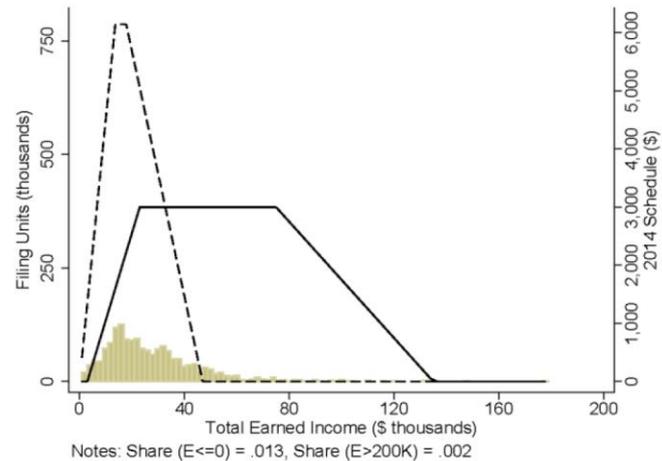
(b) Single filer, one child



(c) Single filer, two children



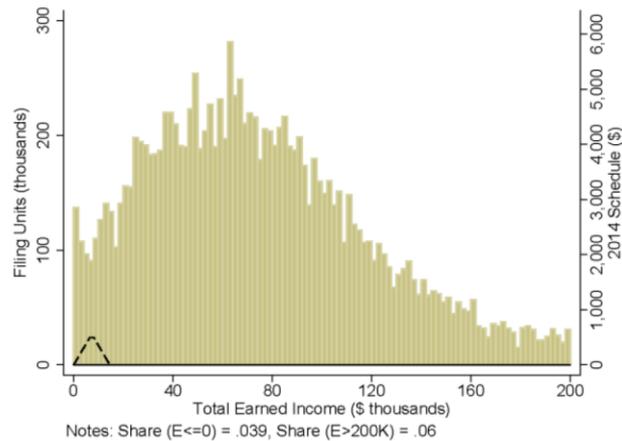
(d) Single filer, three+ children



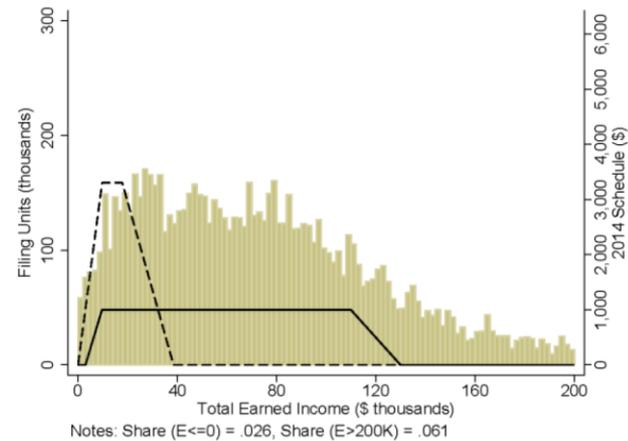
Notes: Tabulations of SOI Tax Model File for 2009, inflated to 2014 levels. Drop those with social security income.

Potential Filers: Distribution of Earnings for Married Filers, 2014

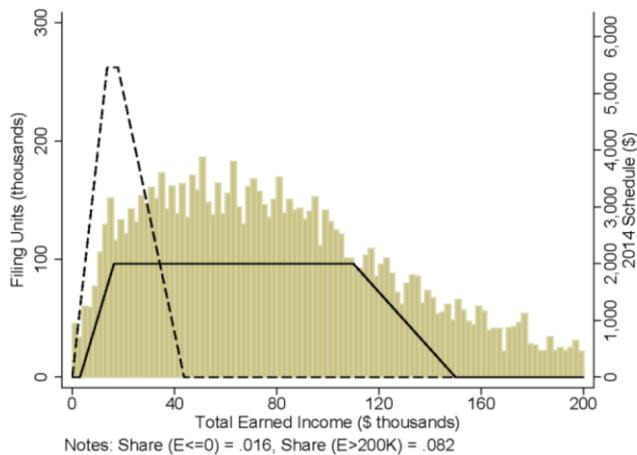
(a) Married couple, no children



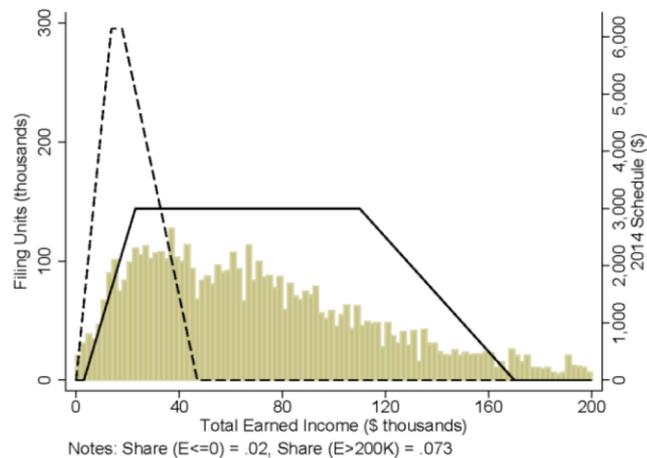
(b) Married couple, one child



(c) Married couple, two children

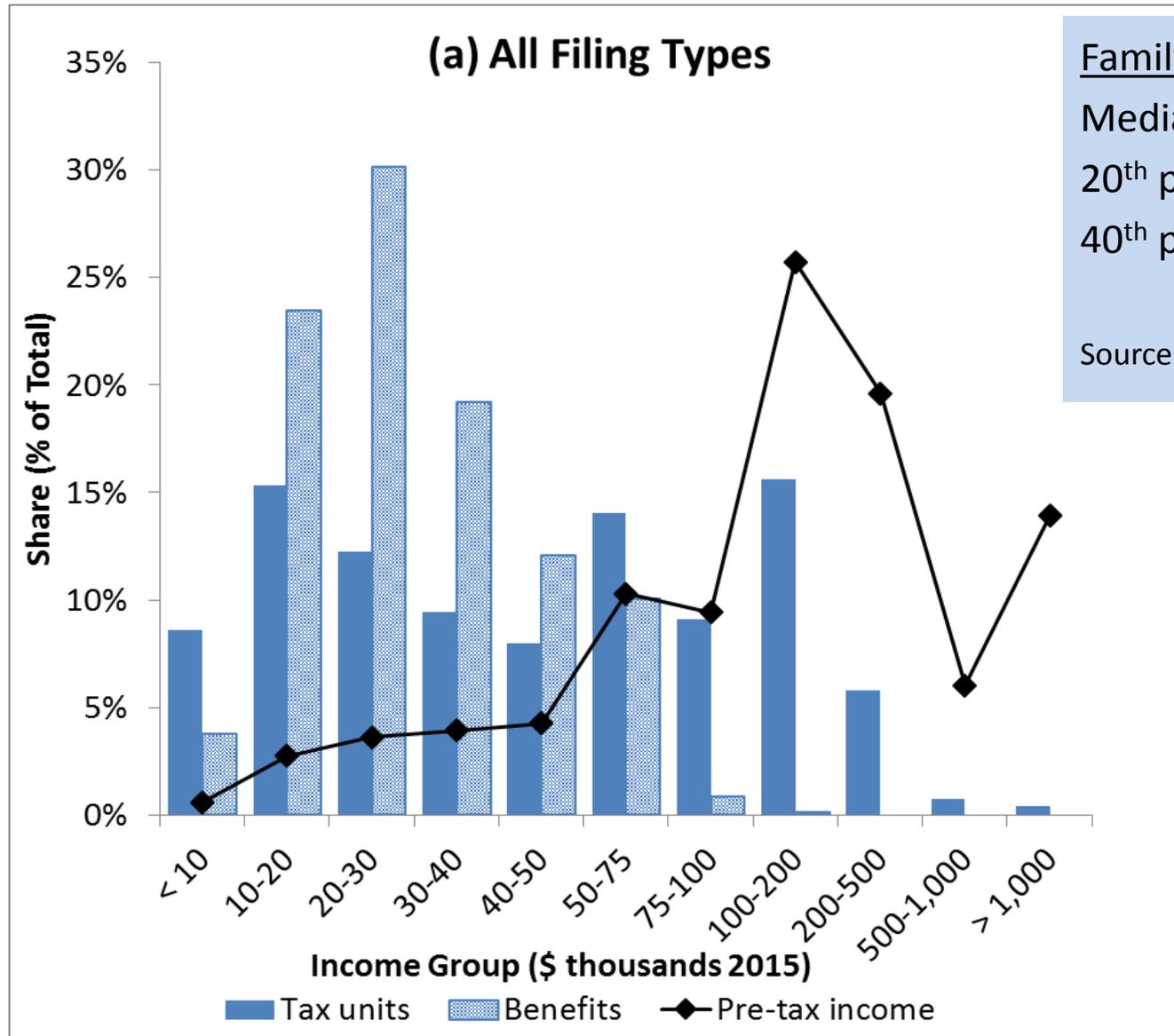


(d) Married couple, three+ children



Notes: Tabulations of SOI Tax Model File for 2009, inflated to 2014 levels. Drop those with social security income.

Static Distributional Effects of EITC, 2014



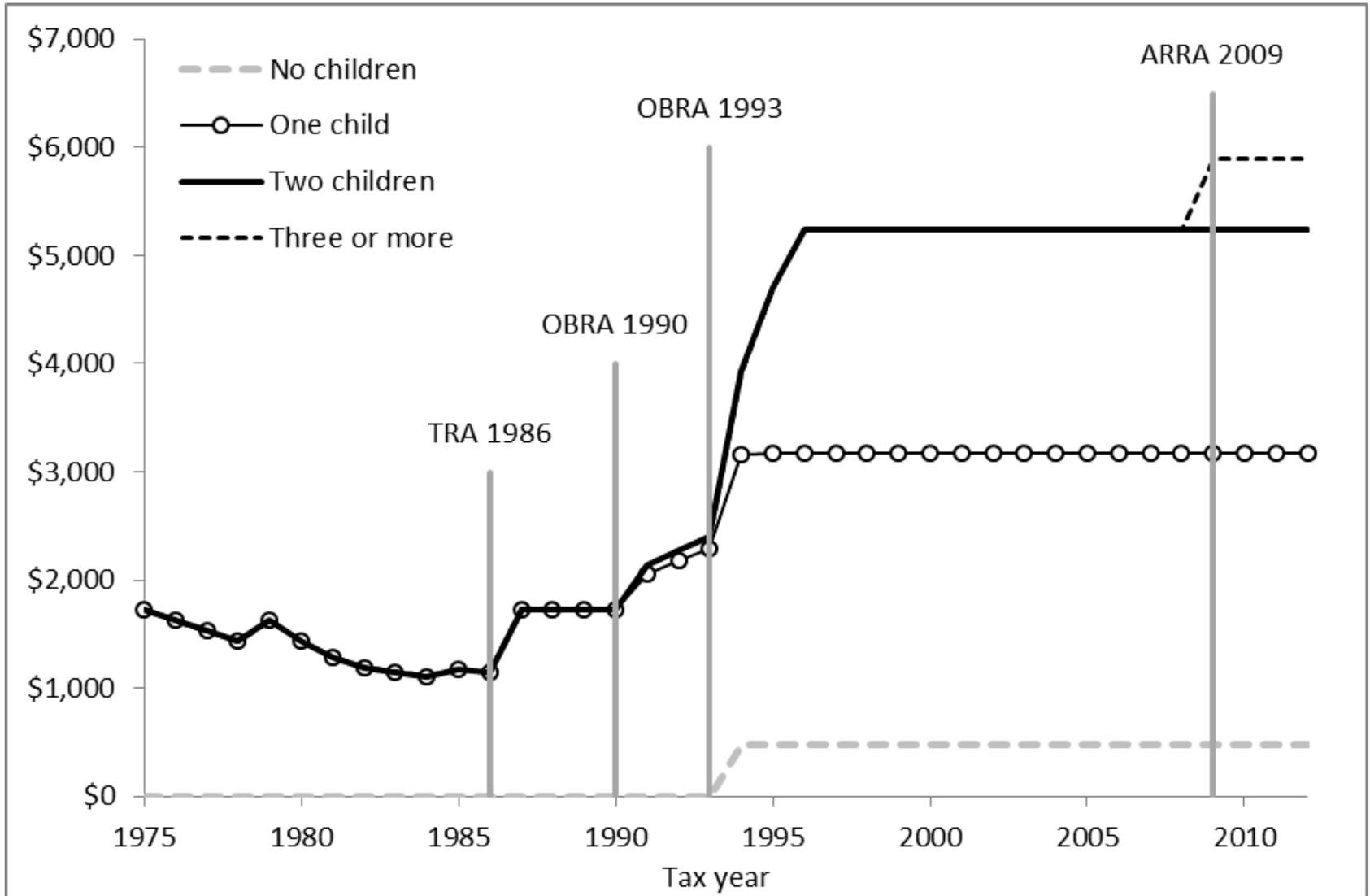
Family Income, 2014
 Median \$53,657
 20th p: \$21,432
 40th p: \$41,186
 Source: ACS

Notes: Urban-Brookings Tax Policy Center Microsimulation Model.

Evidence on Goals: II. Behavioral Effects

- Large quasi-experimental literature leveraging variation across tax years and family size (or leveraging variation in state EITCs)
- 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, Hoynes and Patel 2015)
 - EX: Hoynes and Patel (2015): \$1000 in EITC TOT leads to 6-7 pp increase in employment
- 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). Chetty, Friedman and Saez (2003) do find significant intensive margin responses.
- 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)

Maximum benefits by number of children (2012 \$)



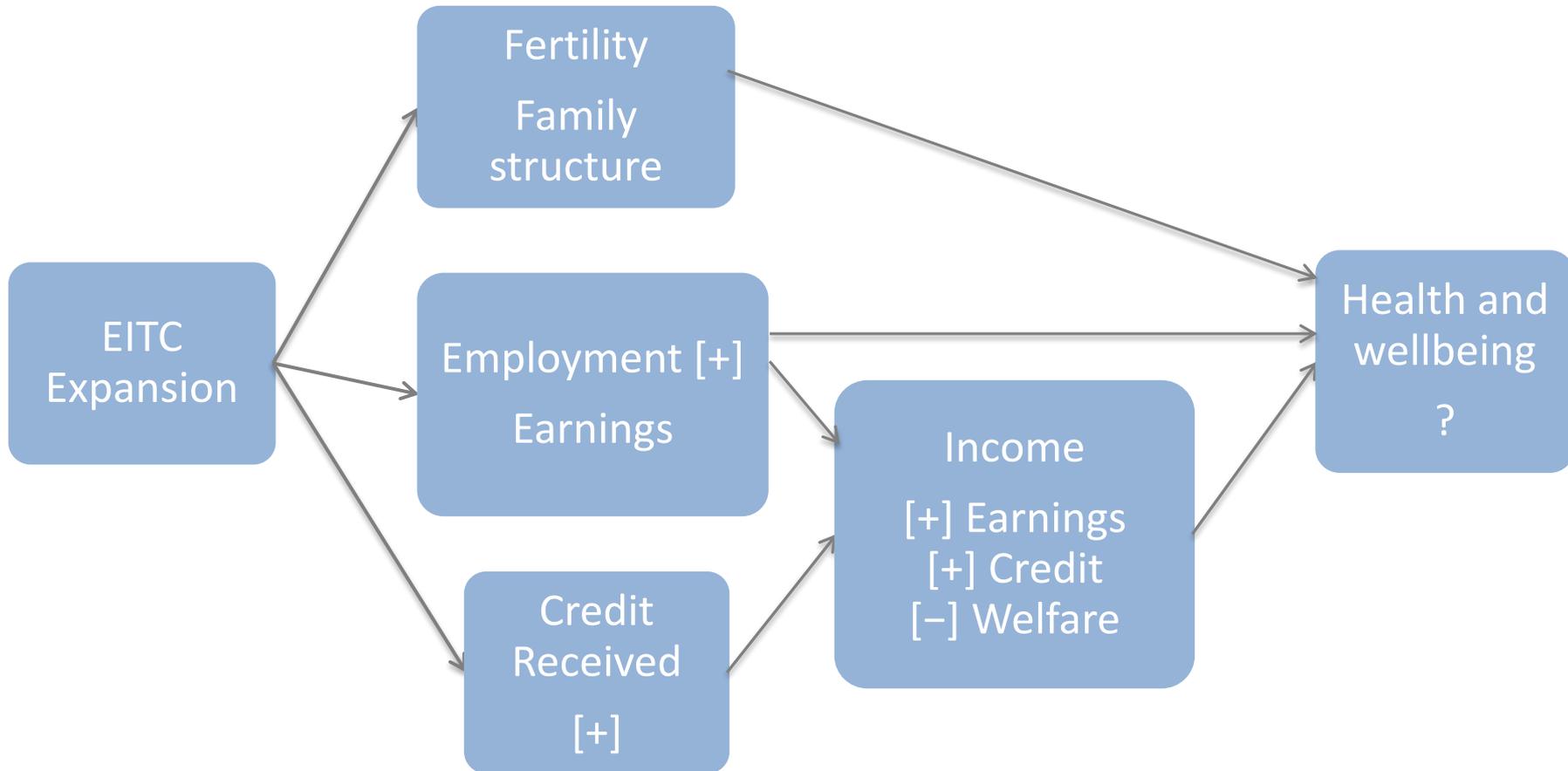
New evidence on the effects of EITC

(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%

EITC, Employment, Income and Well-being



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

Difference in difference setting EITC

- T = single women with children
- C = single women w/o children
- Before and after OBRA93
 - Largest expansion
 - Can look at 1+ vs 0, 2+ vs 1
- Basic model for estimating this
- $y_{it} = \alpha + \beta(\text{post} \times \text{treat}) + \eta_t + \gamma_c + \Phi X_{it} + \varepsilon_{it}$,
- Identifying assumption: no contemporaneous trend for T

Table 3: Difference-in-Difference Estimates of OBRA93 on Employment

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
(Year > 1993) * (1+ children)	0.061***	0.046***		
	(0.01)	(0.01)		
(Year > 1993) * (2+ children)			0.062***	0.025
			(0.01)	(0.01)
Per \$1000 of federal EITC	0.074	0.075	0.080	0.059
% impact	8.7%	8.9%	10.0%	7.5%
Extensive margin elasticity	0.37	0.38	0.45	0.34
Observations	50,508	50,508	25,101	25,101
Mean of the dependent variable	0.844	0.844	0.796	0.796
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
Year indicators	X	X	X	X
State indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

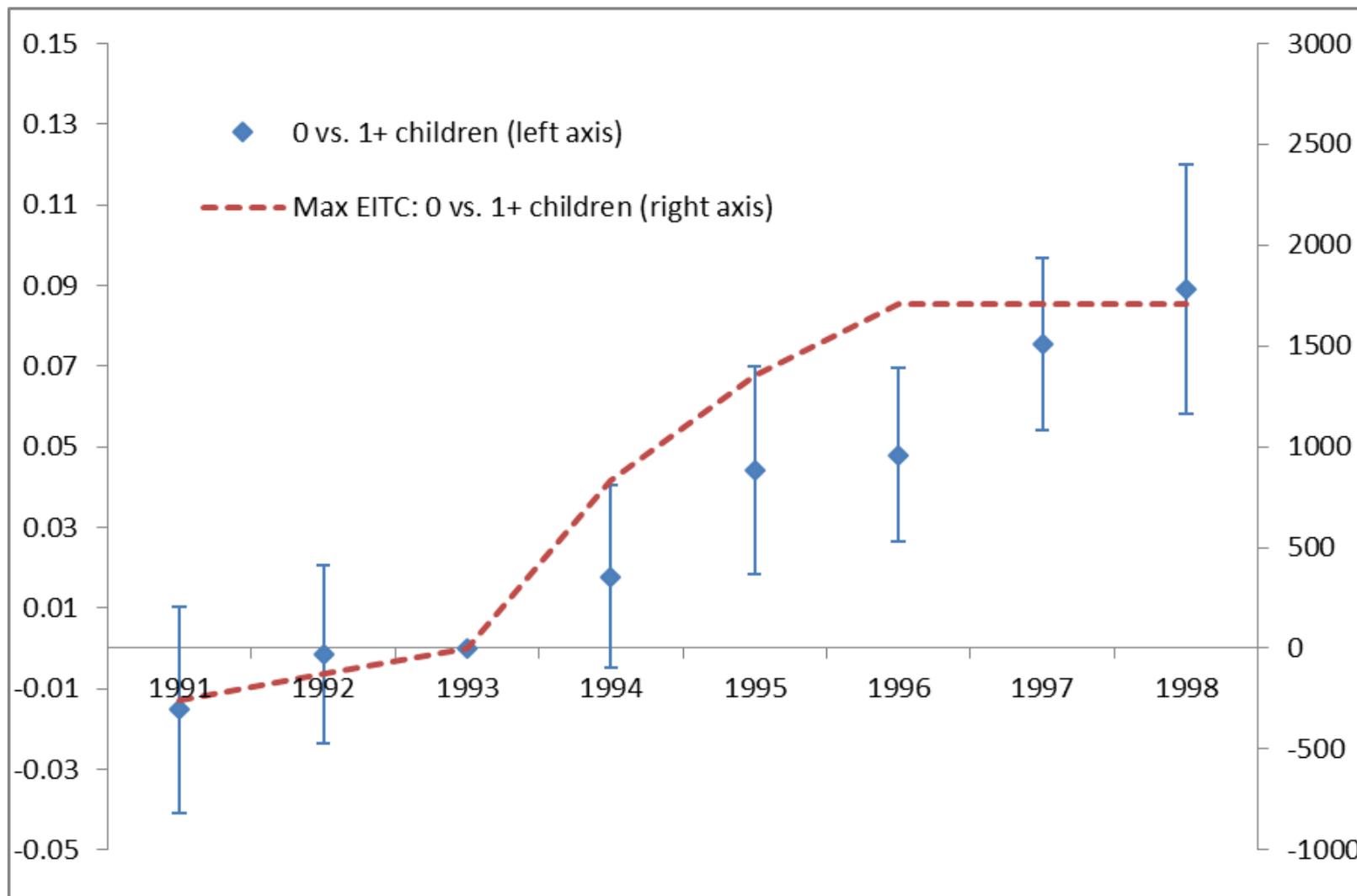
Notes: The sample includes single women, ages 24 through 48 with some college education from the 1992 through 1999 Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state. Significance levels: *10%, **5%, ***1%.

Event Study Specification

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

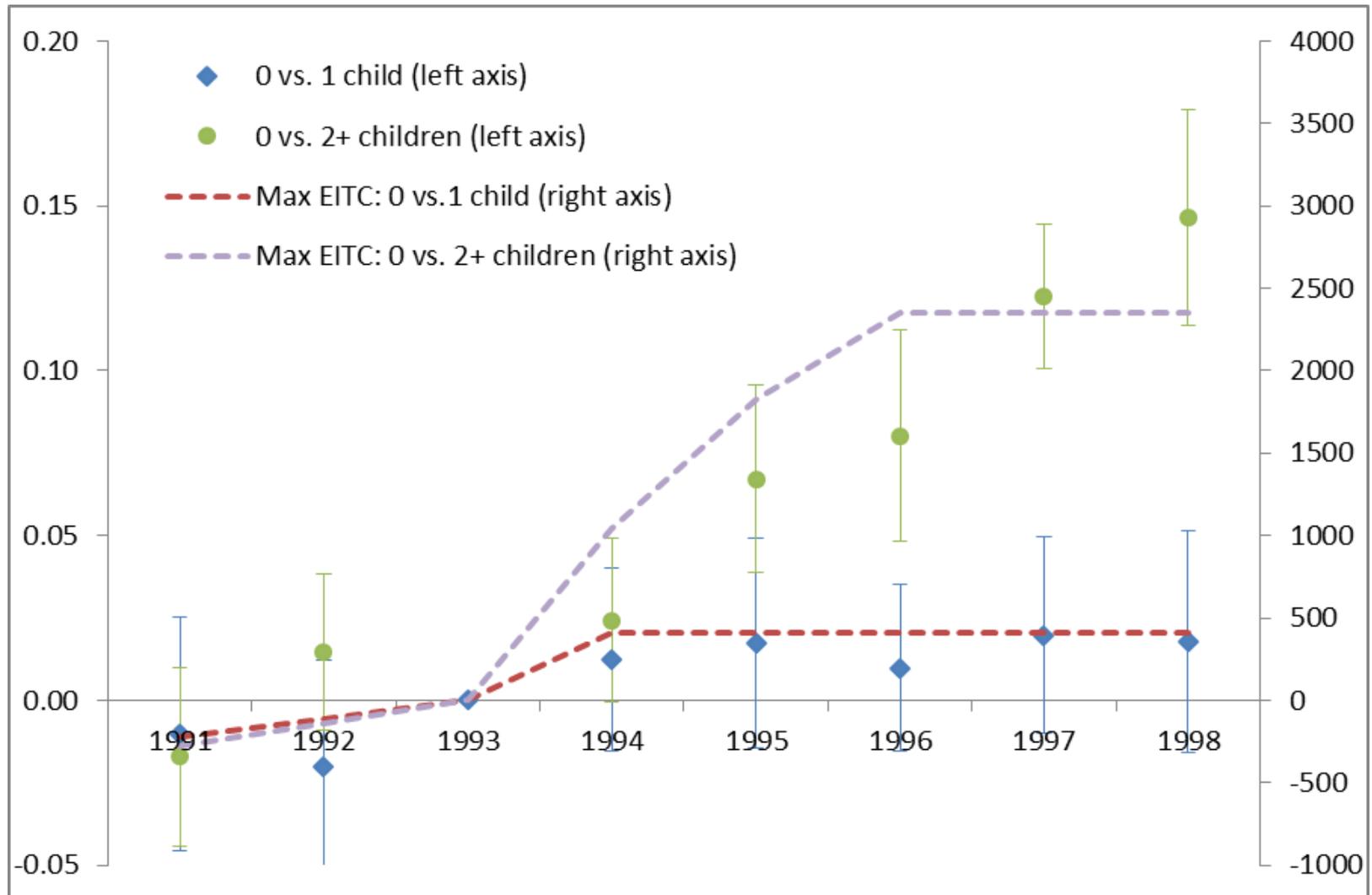
- Basic idea is to “unpack” the pre and post periods into year by year estimates
- Here: a full set of year effects, plus another set for the treated
- The β s then tell about the T-C differences year by year
- This can help us with two things:
 - Look at the “pre-trends”: are the two groups trending similarly before the treatment?
 - What is the time path of effects post-treatment?

Event Study Estimates of the Effects of OBRA1993



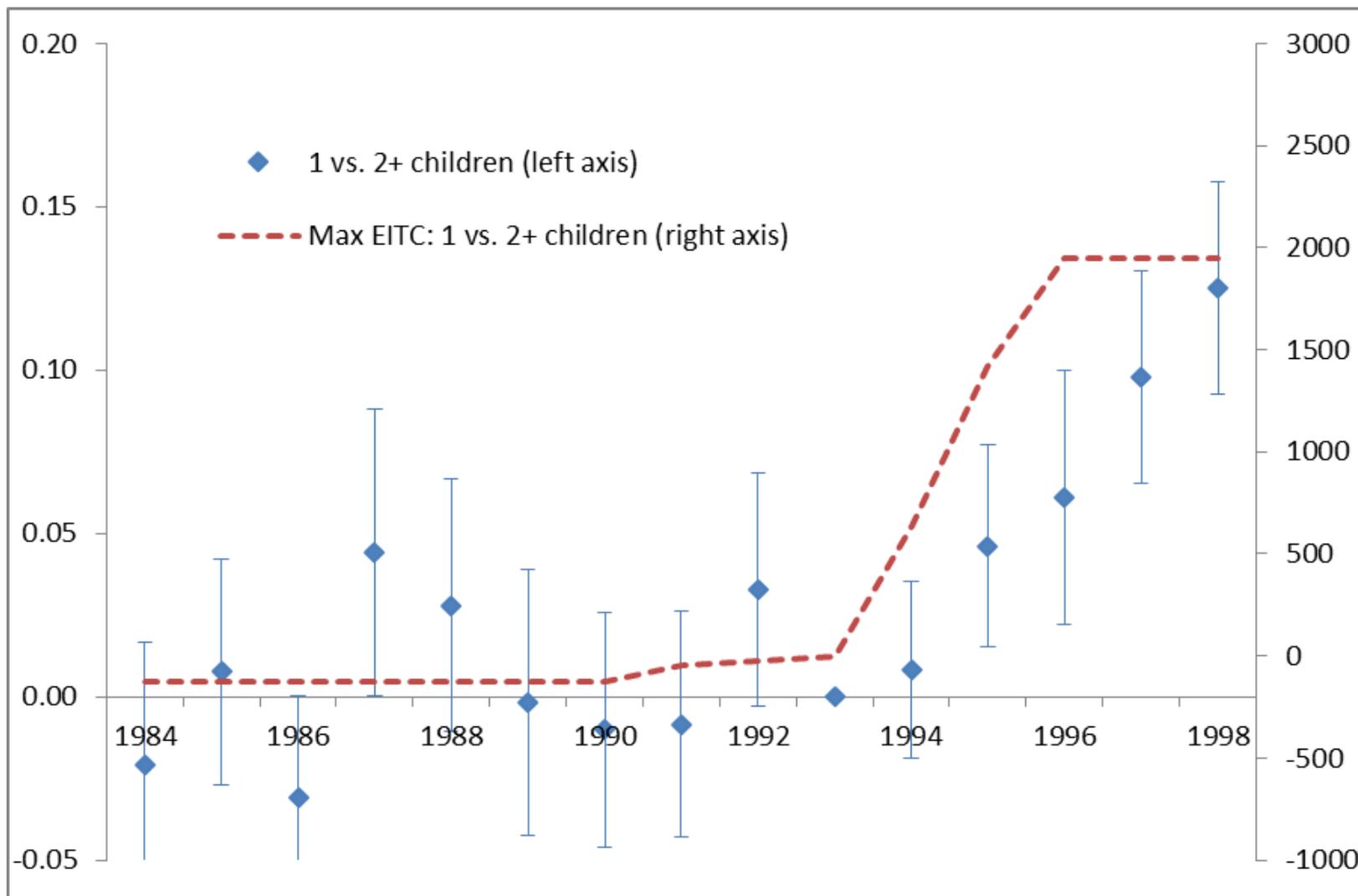
Source: Hoynes and Patel “The Earned Income Tax Credit and the Distribution of Income”

Event Study Estimates of the Effects of OBRA1993



Source: Hoynes and Patel "The Earned Income Tax Credit and the Distribution of Income"

Event Study Estimates of the Effects of OBRA1993



Source: Hoynes and Patel "The Earned Income Tax Credit and the Distribution of Income"

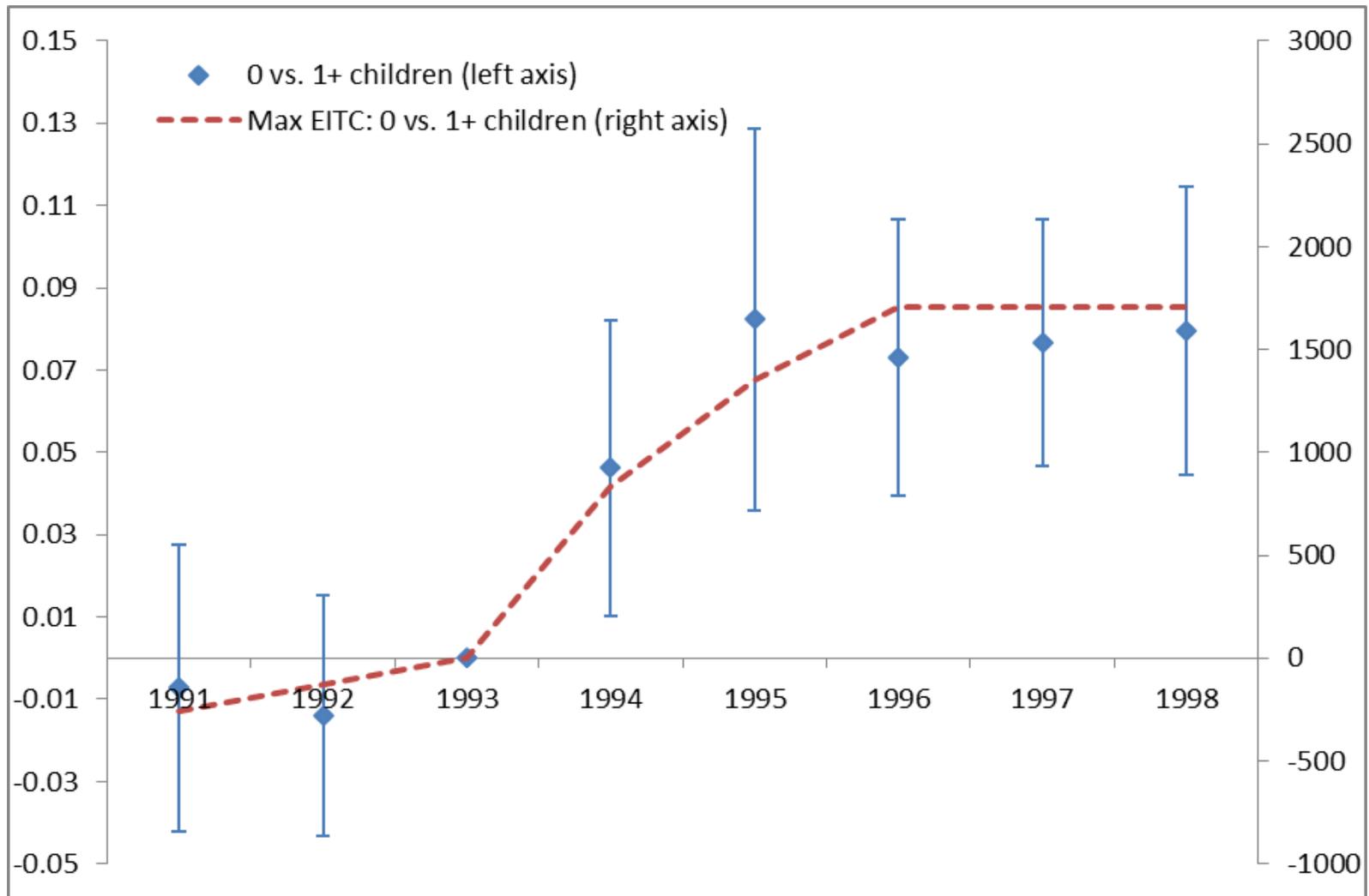
Magnitudes for labor supply effects

- Our results show that a \$1000 increase in (potential) Earned Income Tax Credit leads to a 7.5-8.5 percentage point increase in employment for single mothers
- Extensive margin elasticities range from 0.35-0.45
- 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)

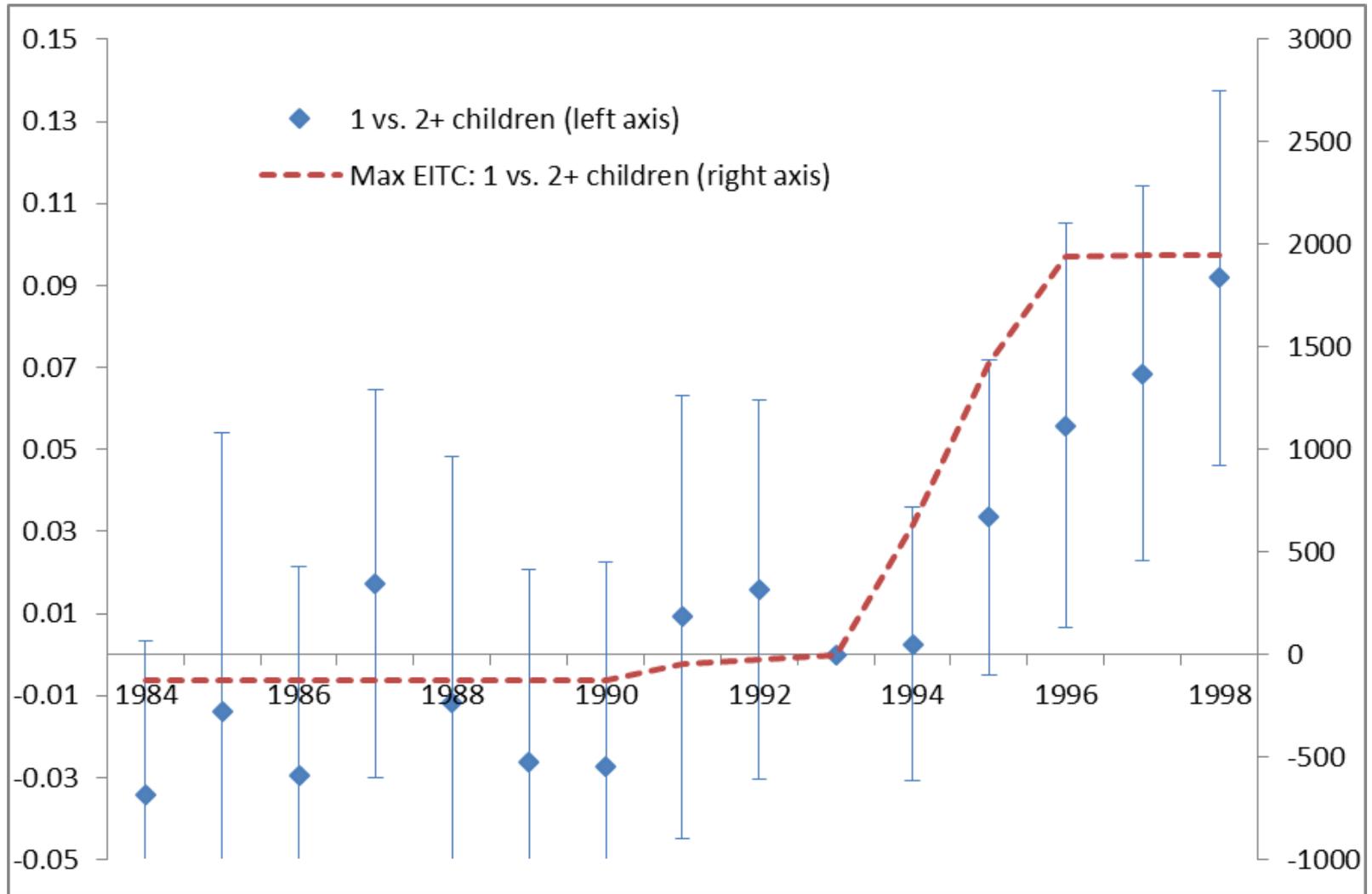
- We estimate similar event study and difference-in-difference models to estimate how the EITC affects after-tax and transfer income (ATTI)
- We are particularly interested where in the income distribution the credit has its effects
- We construct a series of dichotomous outcome variables, $= 1$ if $ATTI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

Event Study Estimates of EITC on income > 100% poverty, OBRA93



Source: Hoynes and Patel “The Earned Income Tax Credit and the Distribution of Income”

Event Study Estimates of EITC on 100% poverty, OBRA93

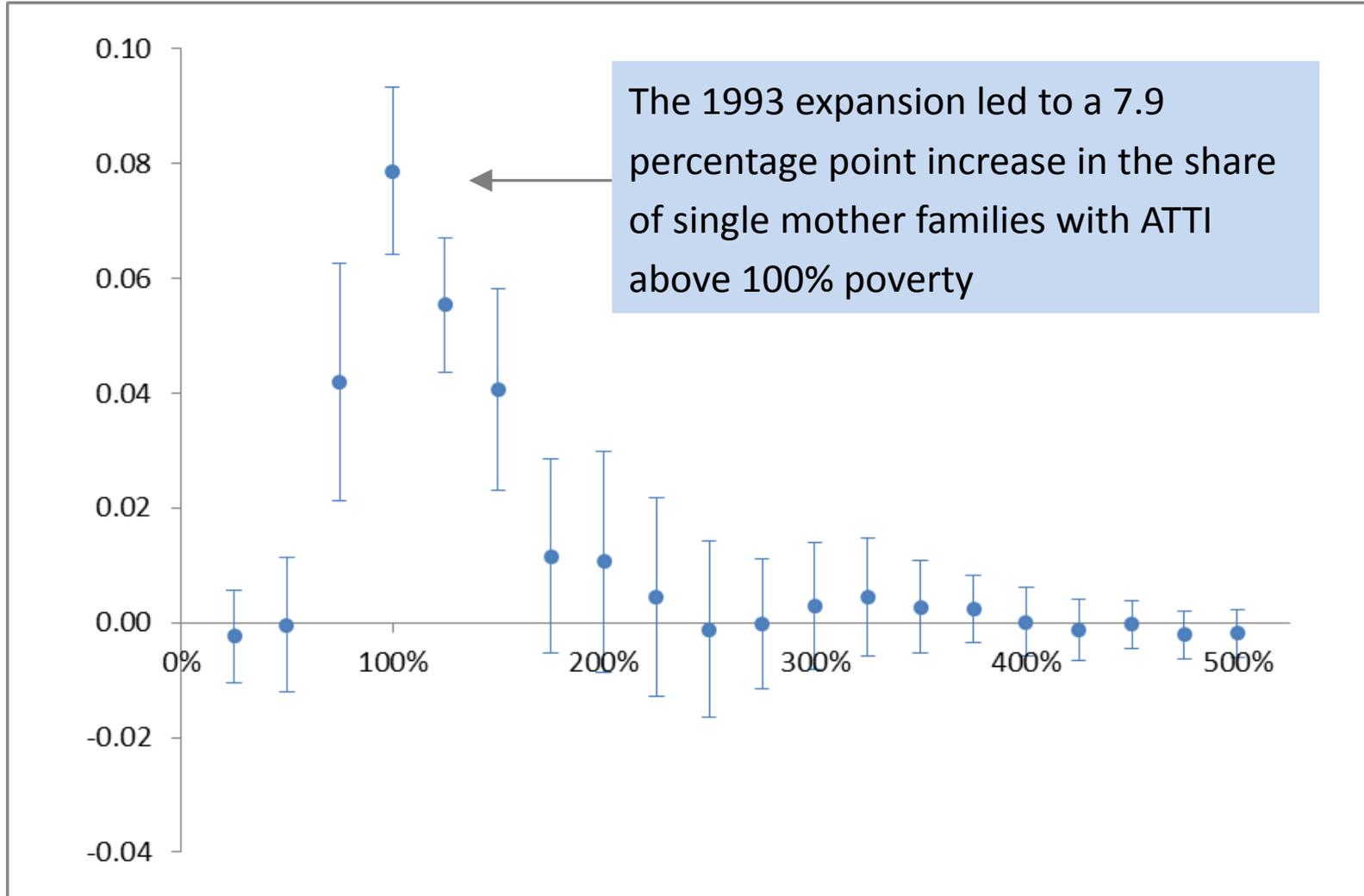


Source: Hoynes and Patel "The Earned Income Tax Credit and the Distribution of Income"

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

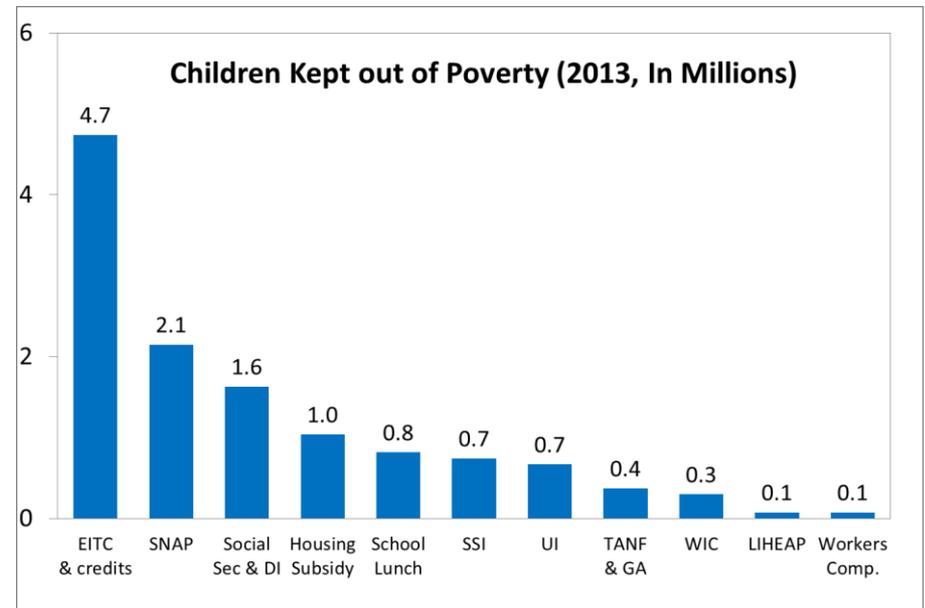
Difference-in-Difference Estimates of EITC on income to poverty, OBRA93



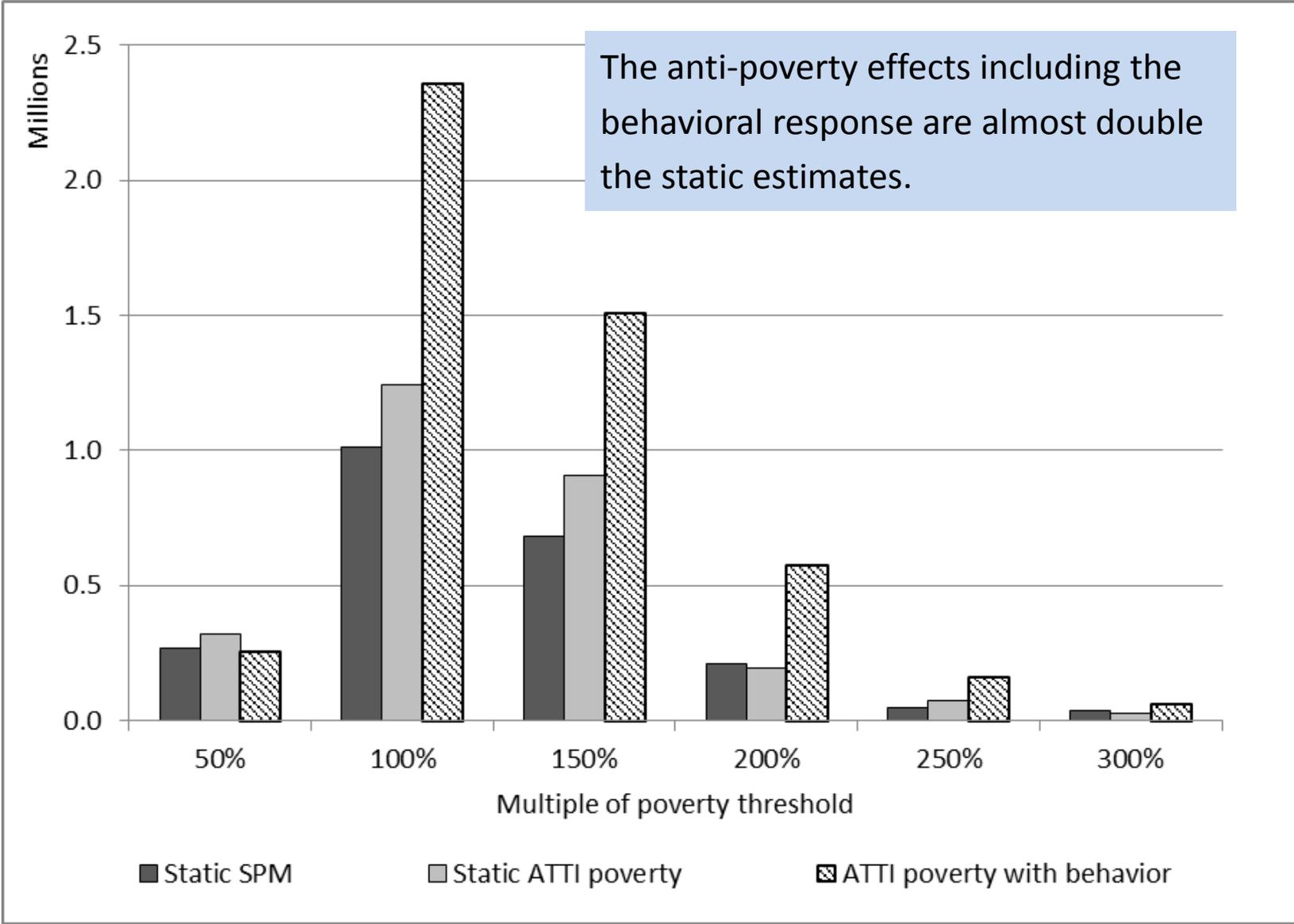
Source: Hoynes and Patel “The Earned Income Tax Credit and the Distribution of Income”

Implications for anti-poverty effects of the EITC

- The figure showed earlier (below) provides a static calculation of the effects of the EITC. Calculated by zeroing out EITC amount and assuming no change in behavior.
- We can use our estimates to simulate the effect of the EITC. We do this for the 2012 EITC



Number of Children Removed from Poverty Due to the EITC, by Poverty Measure



- One caveat of this work is that we focus on single mothers.
- The employment (and likely earnings) incentive effects for this group are positive.
- It is this group where the static calculations should be very underestimated
- For married couples, the labor supply effects are zero or small and negative. So for this group the static antipoverty effects may provide a good estimate of the total effects

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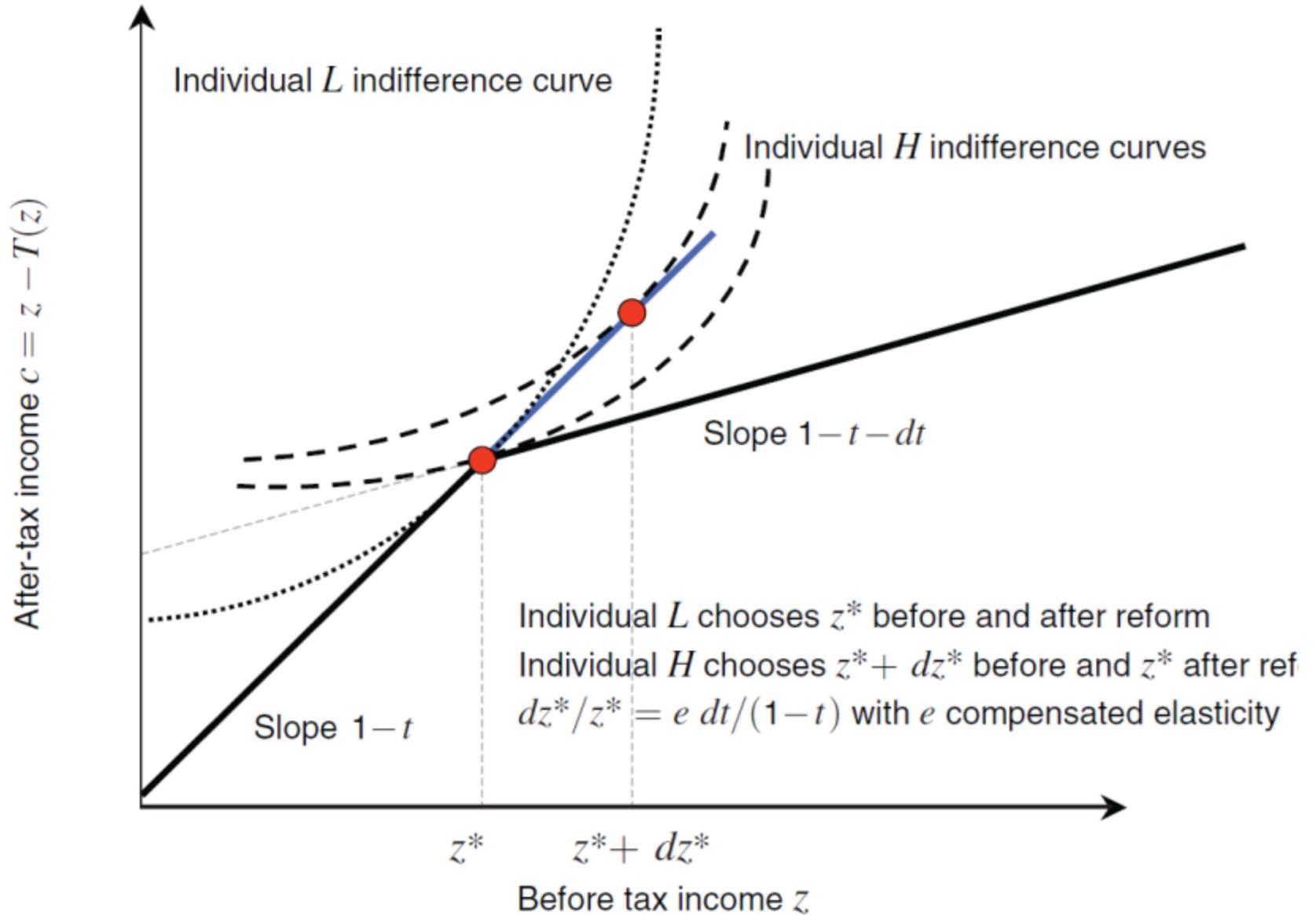
The broader research on the EITC

1. [Labor supply and earnings]
2. “Bunching at the kinks”
3. Incidence, effects on wages
4. Challenges of redistributing within the tax system
5. Effects of the EITC on health and well being

2. “Bunching at the kinks”

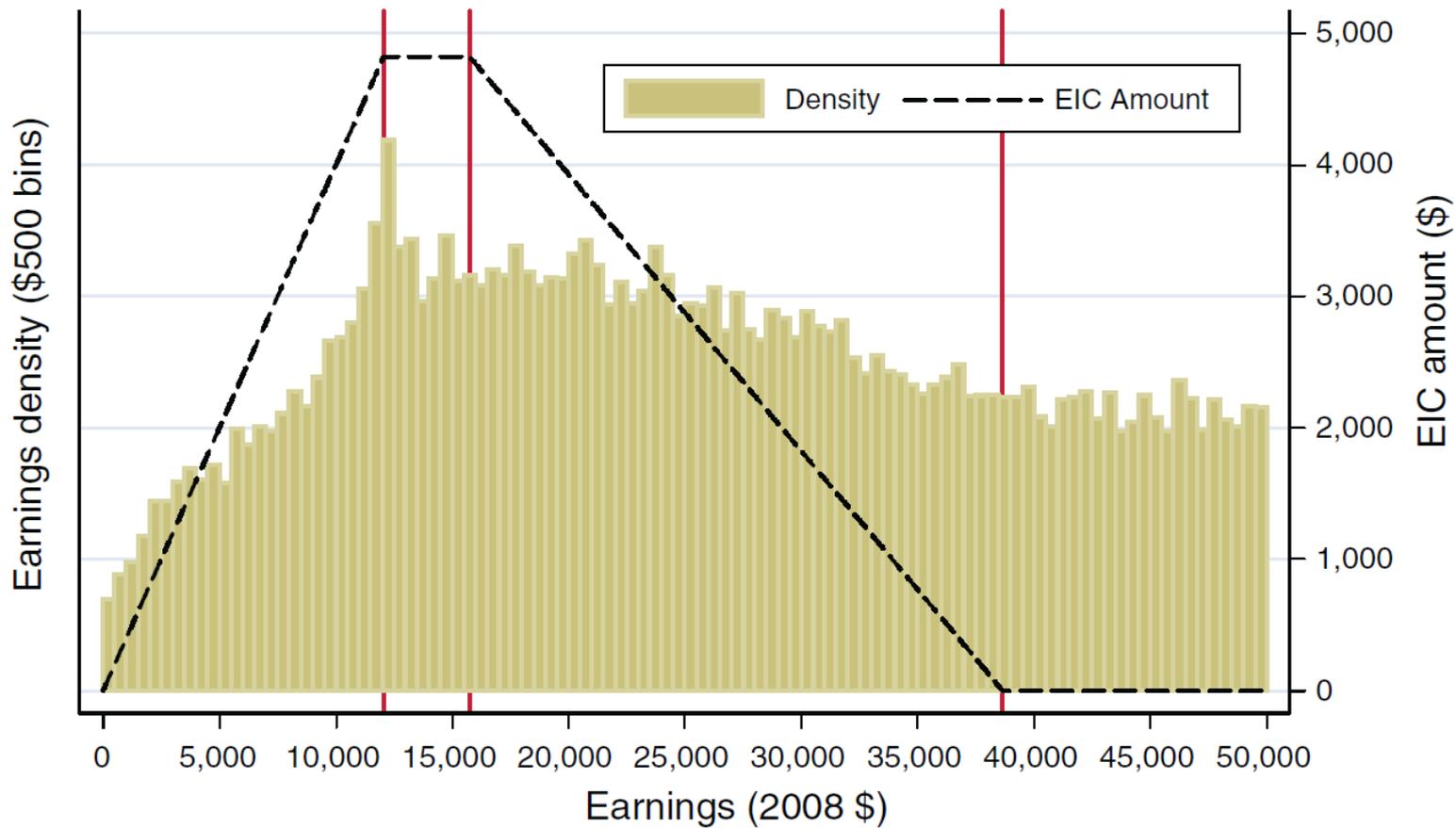
- Saez (2010) – the first to point out how these kinks in the budget set may (a) represent an opportunity to estimate elasticities and (b) in the EITC, it may lead “overclaiming”

I A. Indifference curves and bunching



Saez (2010), illustrates indiff curves that lead to bunching at convex kink.

B. Two children or more



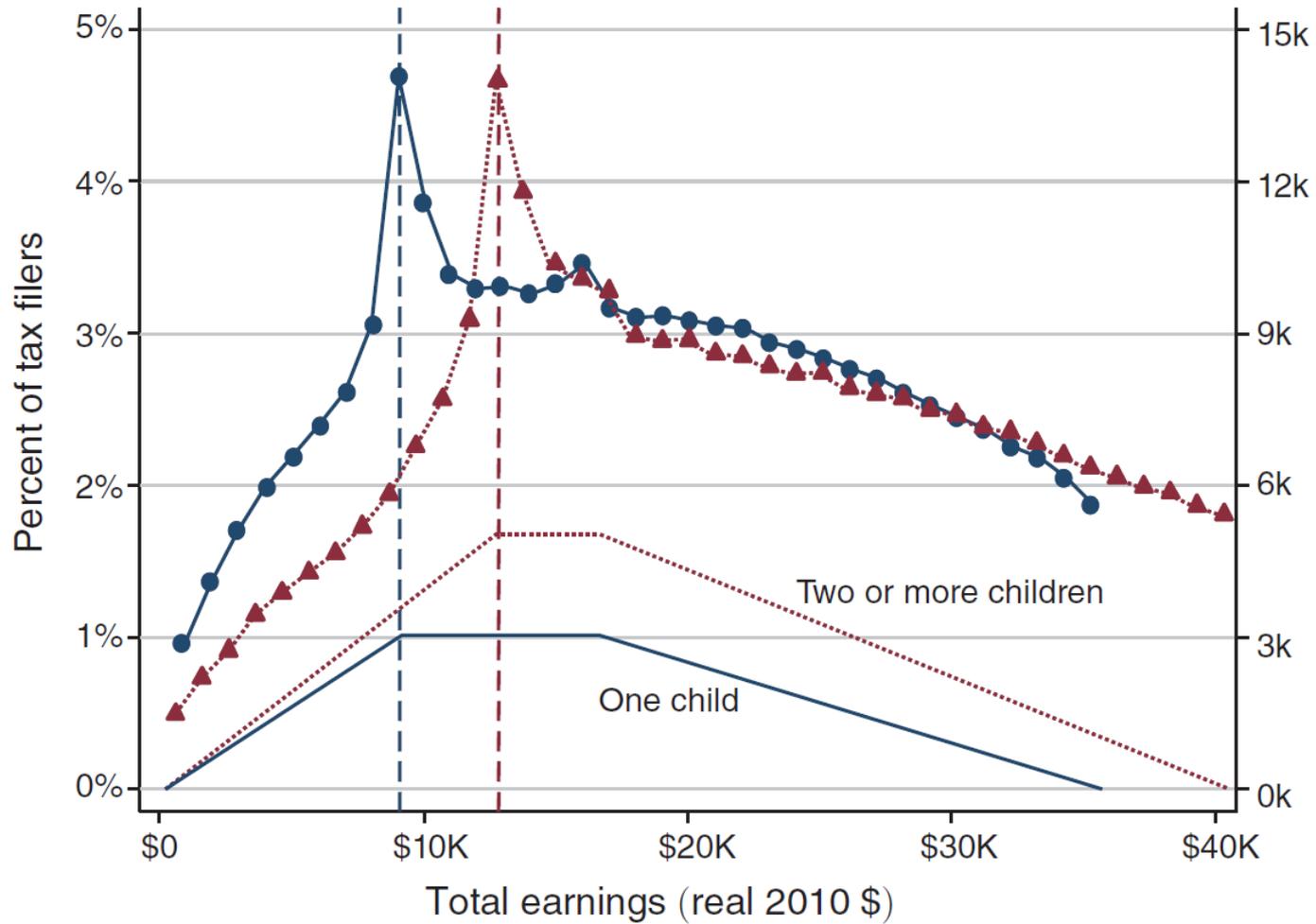
Panel B. Two or more children



FIGURE 4. EARNINGS DENSITY AND THE EITC: WAGE EARNERS VERSUS SELF-EMPLOYED

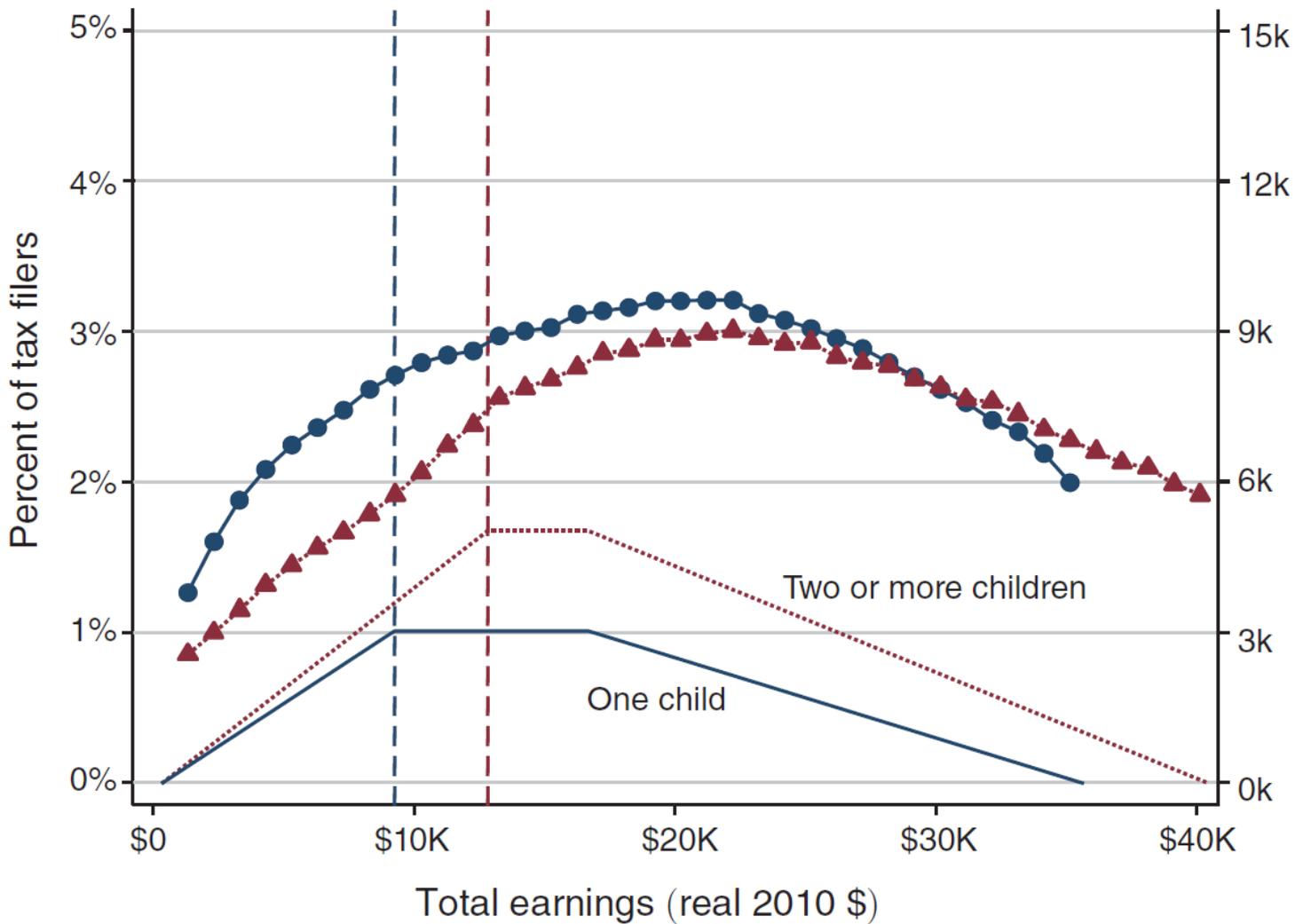
- Chetty et al (2013) using the universe of U.S. tax filers find evidence of clustering at the first EITC kink
 - This occurs only for those with self employment income, which is self-reported and easy to manipulate (and may not reflect real economic activity)
 - They use extensive spatial variation in the clustering at kink as a proxy for local knowledge about marginal incentives and find that behavior adjusts with moves across areas

Panel A. All households with children in 2008



Source: Chetty et al, "Knowledge and Impacts of the EITC on Earnings" AER 2013.

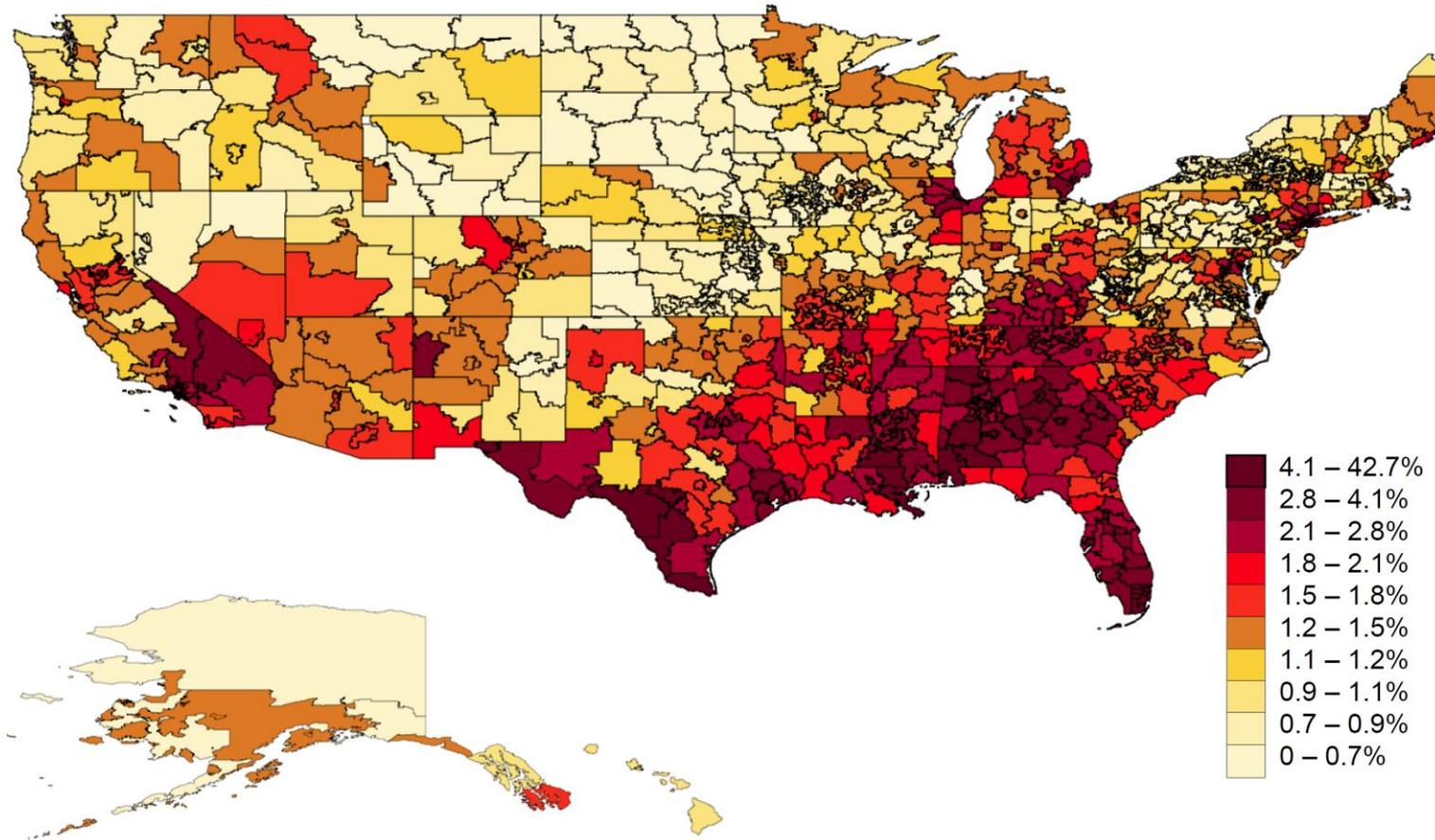
Panel B. Wage earners with children in 2008



Source: Chetty et al, "Knowledge and Impacts of the EITC on Earnings" AER 2013.

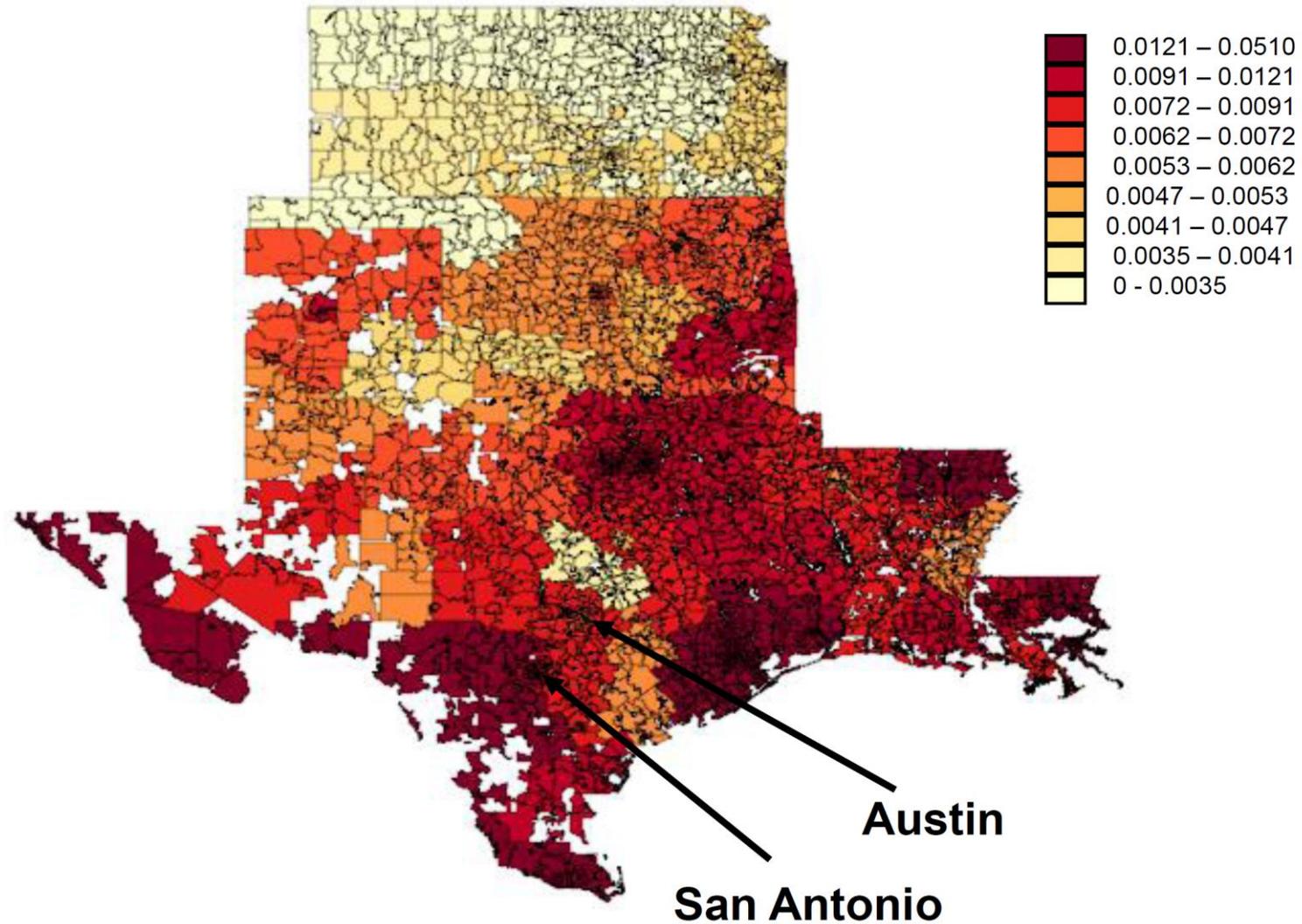
SPATIAL VARIATION IN CLUSTERING 3-digit zipcode level

Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2008

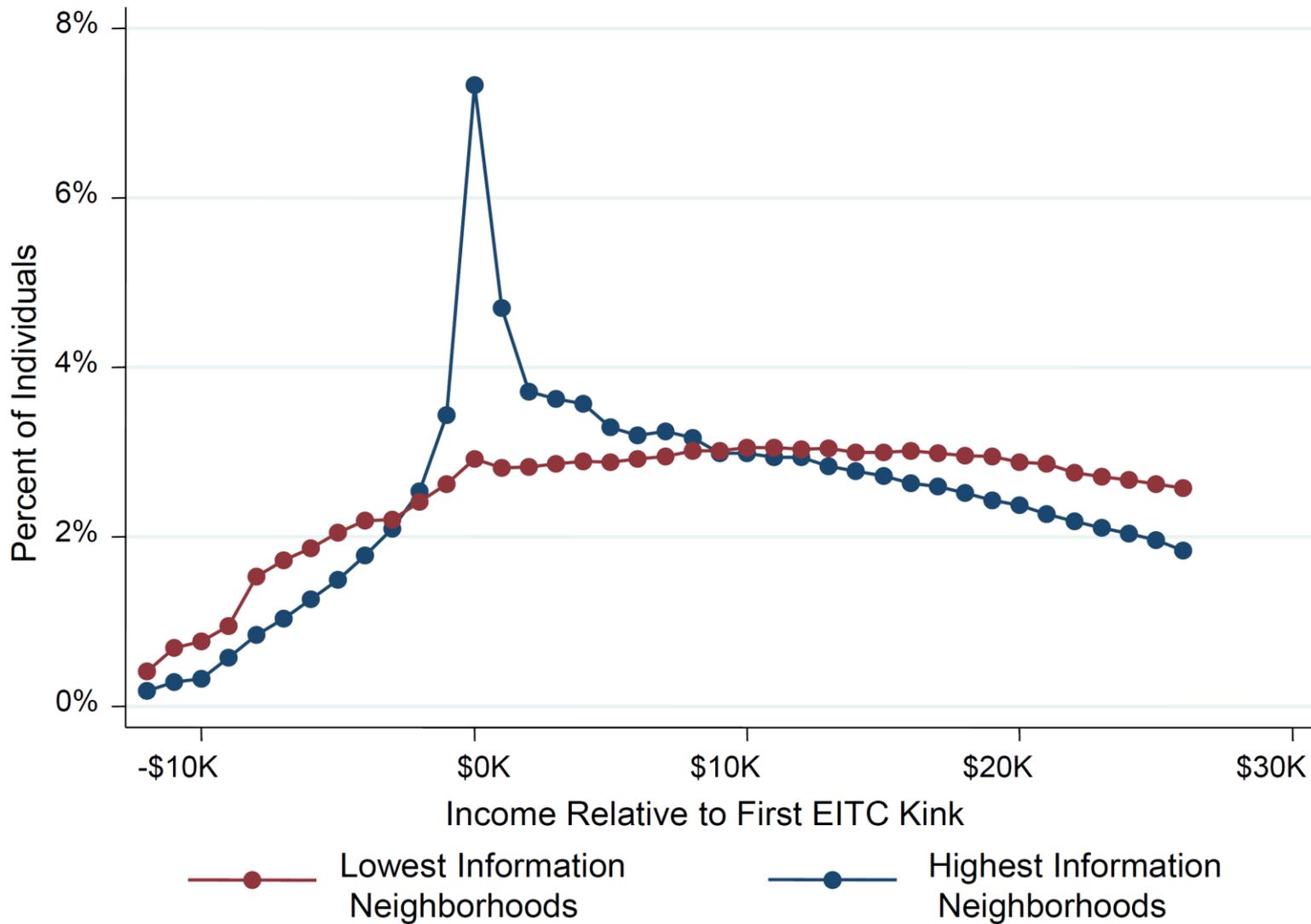


Source: Chetty et al, “Knowledge and Impacts of the EITC on Earnings” AER 2013.

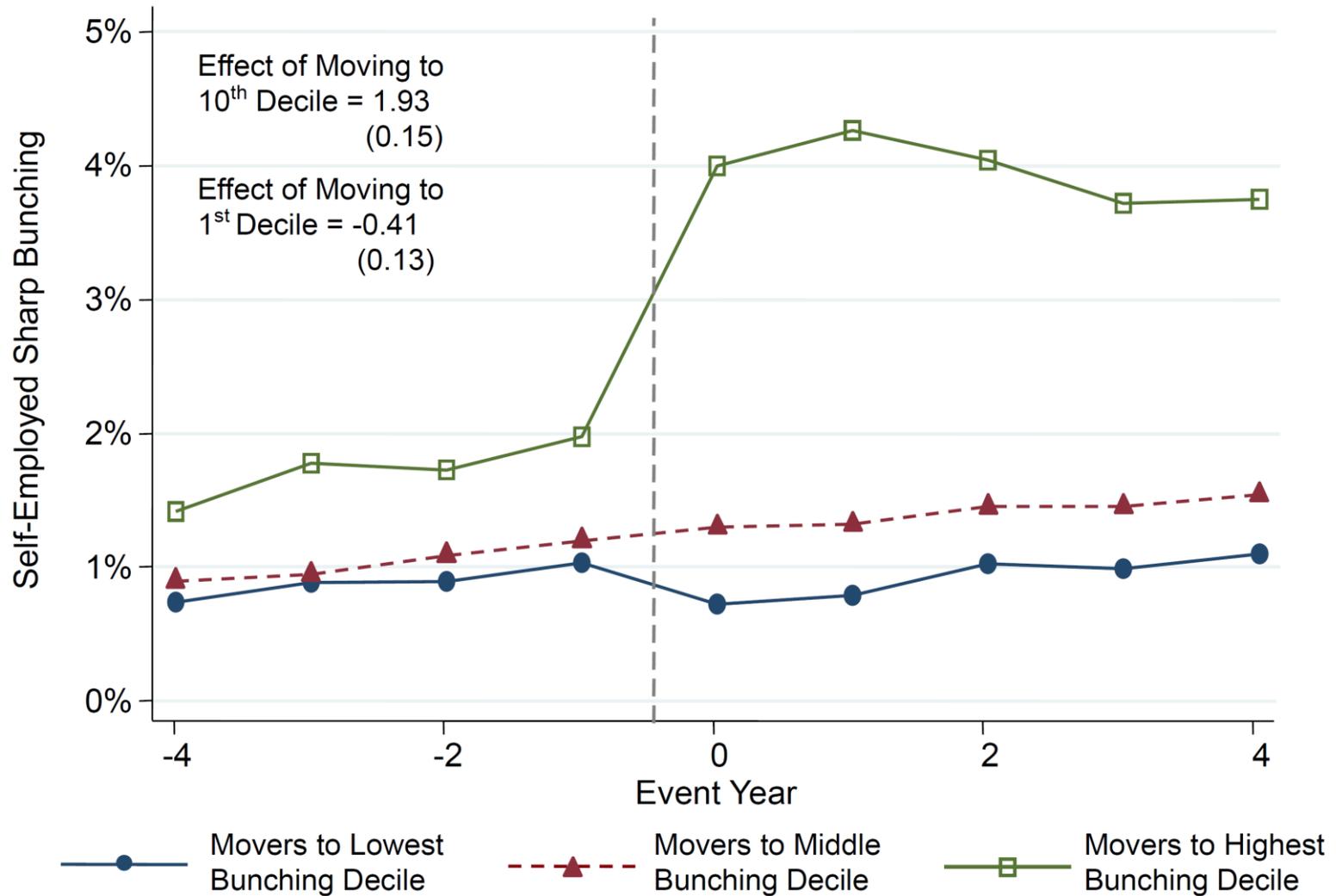
Self-Employed Sharp Bunching in 2008 by 3-Digit Zip Code in Kansas, Louisiana, Oklahoma, and Texas



Income Distributions in Lowest vs. Highest Decile Neighborhoods



Event Study of Sharp Bunching Around Moves



Source: Chetty et al, “Knowledge and Impacts of the EITC on Earnings” AER 2013.

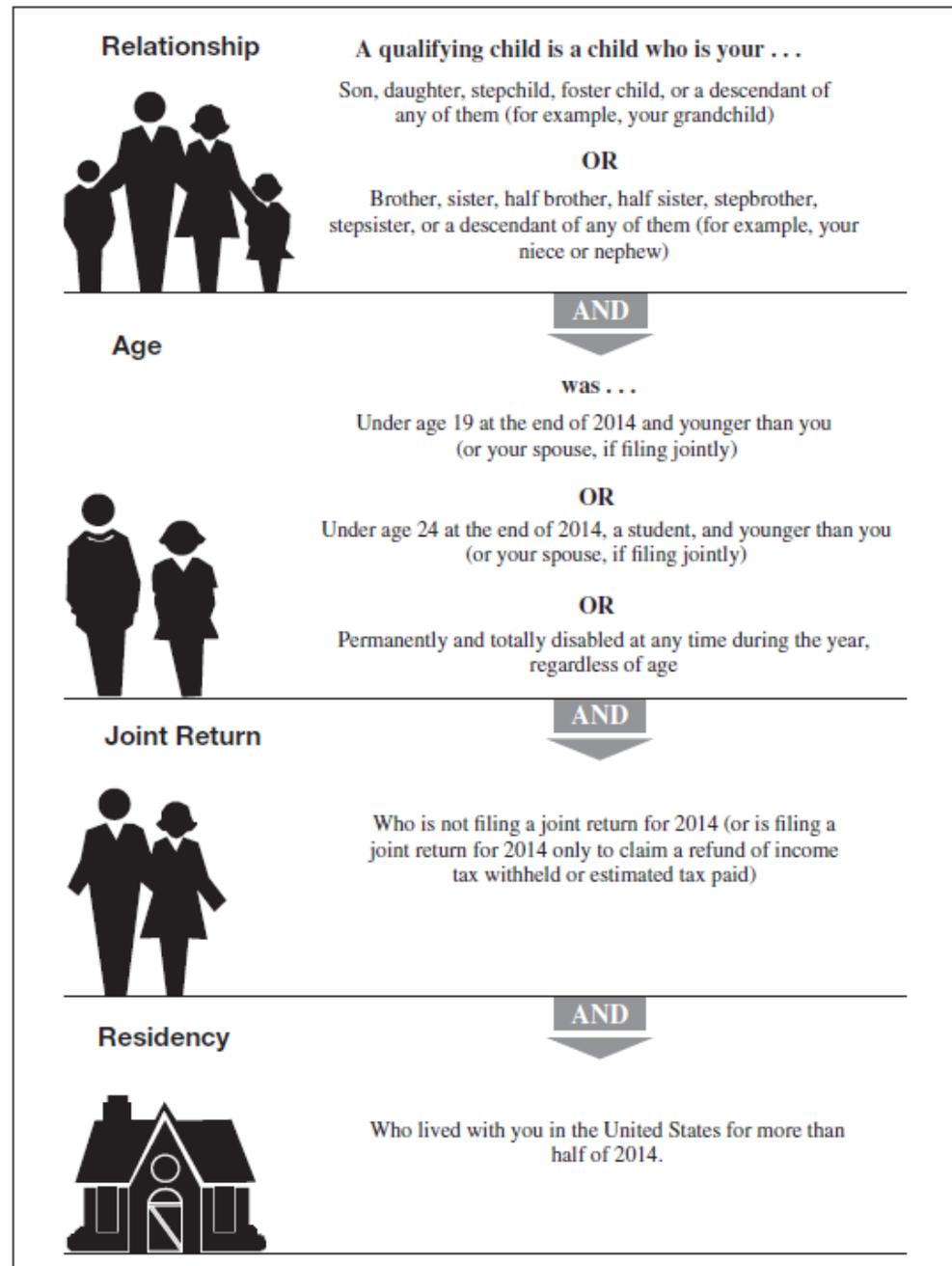
3. Effects on Incidence

- Incidence: Difficult to estimate GE effects using year-family size quasi experimental designs
 - Rothstein (2010) simulates effects using demand and supply elasticities and finds substantial reductions in pre-tax wages due to federal EITC; overstating transfers to workers by one-third
 - Leigh (2010) uses state EITCs and finds that 10% increase in EITC lead to a 5% (2%) reduction in pre-tax wages for high school dropouts (HS grads). These must reflect something other than just incidence, because they imply employers get 500% of the benefit
 - Includes negative spillovers on ineligible low skilled workers (childless)

4. Challenges of redistributing within the tax system Evidence on Goals: Administrative / Compliance

- PLUS: Low administrative costs (compared to welfare offices). Large gains to having third party earnings reporting (e.g. W-2).
- MINUS: Lack of resources to determining eligibility means higher rates of noncompliance.
- Over-payment is a problem: 22%-26% of all EITC dollars claimed (2011 returns). Main sources for noncompliance:
 1. Qualifying child: 30% of returns with overclaims, >50% of \$ overclaimed; primarily a problem with residency requirement
 2. Income misreporting: 66% of returns with overclaims, but less of overclaimed \$. Primarily an issue for self employment income

Figure A. Tests for Qualifying Child



5. Effects of the EITC on other family outcomes

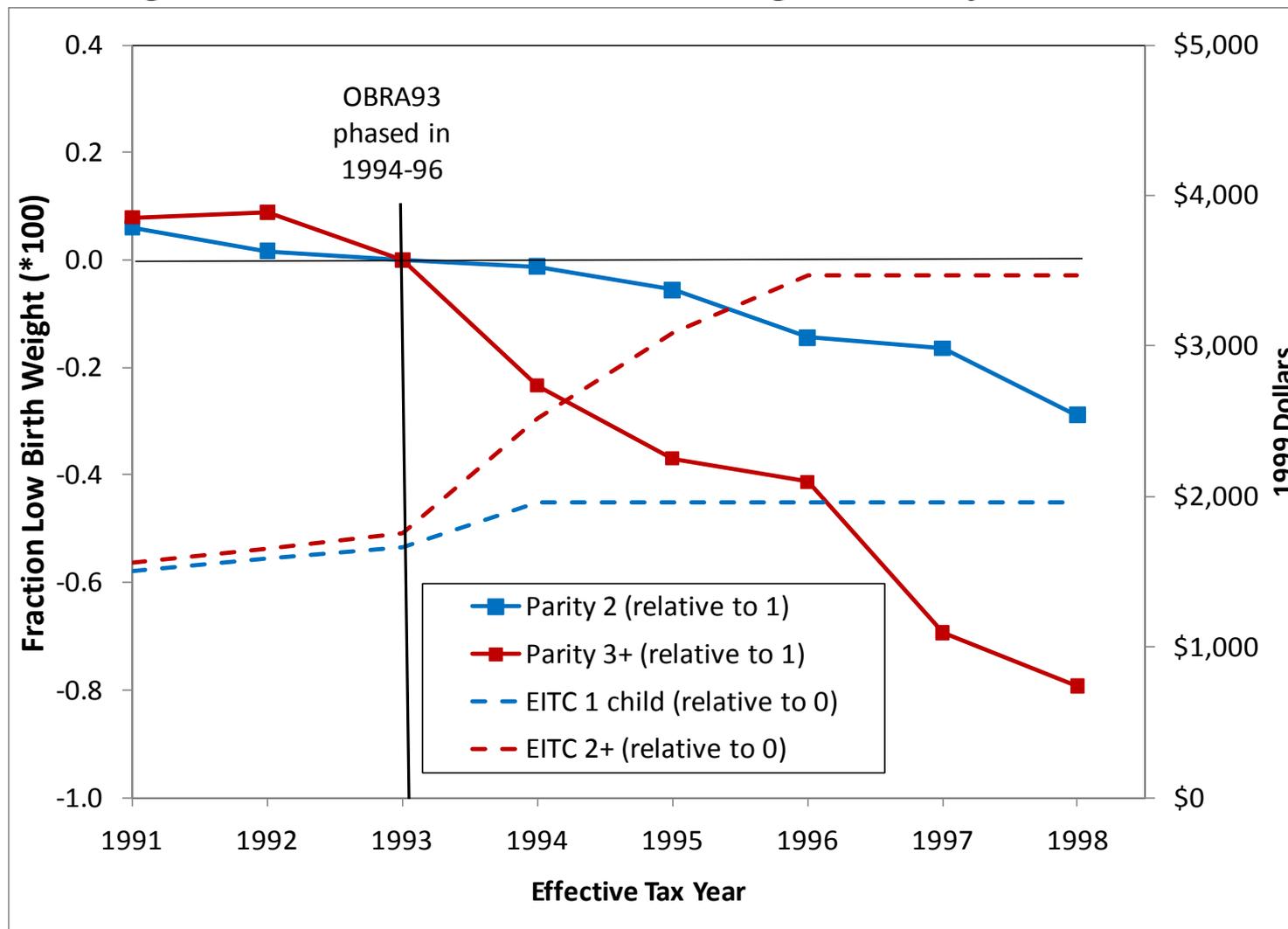
- We know that the EITC leads to increases in employment and net income
- Does this package of income and employment effects show benefits in other domains?
- A relatively recent literature seeks to quantify effects of safety net programs beyond labor supply and income
- In this setting (the EITC), it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

Recent studies and their effects

- EITC leads to an increase in test scores (Dahl and Lochner, 2012)
- Hoynes, Miller and Simon (2014) 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)
- 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

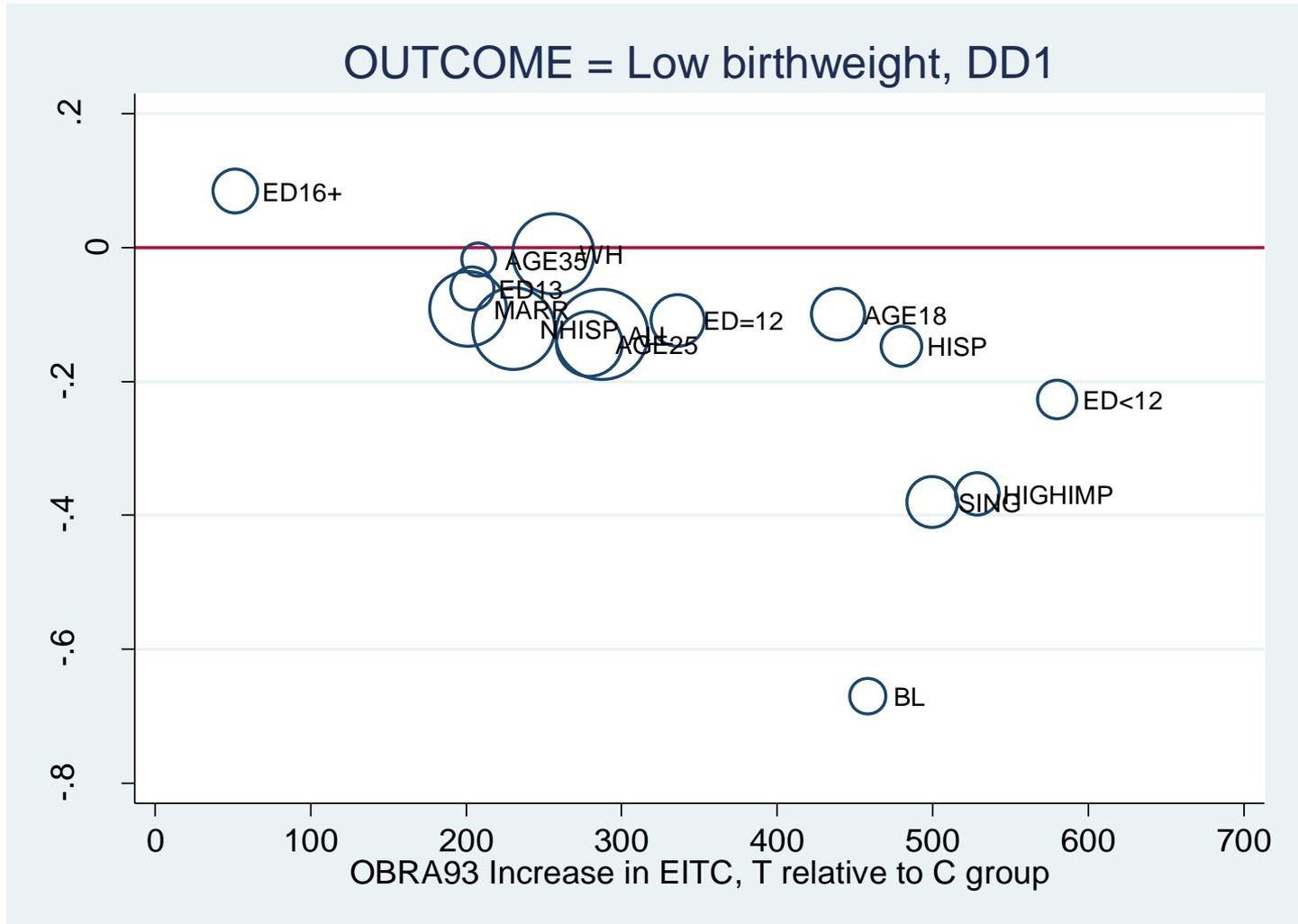
Effect of OBRA93 on low birth weight

Single women with ≤ 12 years of education



Source: Hoynes, Miller and Simon "Income, the Earned Income Tax Credit, and Infant Health", forthcoming AEJ Policy

Magnitude of birth weight improvement lines up with predicted treatment



Source: Hoynes, Miller and Simon “Income, the Earned Income Tax Credit, and Infant Health”, forthcoming AEJ Policy

Effects of the EITC on educational outcomes

- Dahl and Lochner (2012) find that the EITC leads to an increase in reading and math test scores.
- Chetty, Friedman, and Rockoff (2011) find similar effects analyzing large administrative data New York City schoolchildren's test scores.
- Bastian and Michelmore (2015), Maxfield (2013) and Manoli and Turner (2014) find that the EITC leads to increases in educational attainment and college going.

Outline of lecture

1. Policy setting and goals: The EITC (and the Child Tax Credit)
2. Predictions: Effects of EITC on labor supply, poverty and family well being
3. Evidence on Goals of EITC: Including Hoynes and Patel: Example of difference in difference analysis
4. Quick summary of the larger literature
5. Case Study: CA State EITC

In-work benefits are prominent in other settings

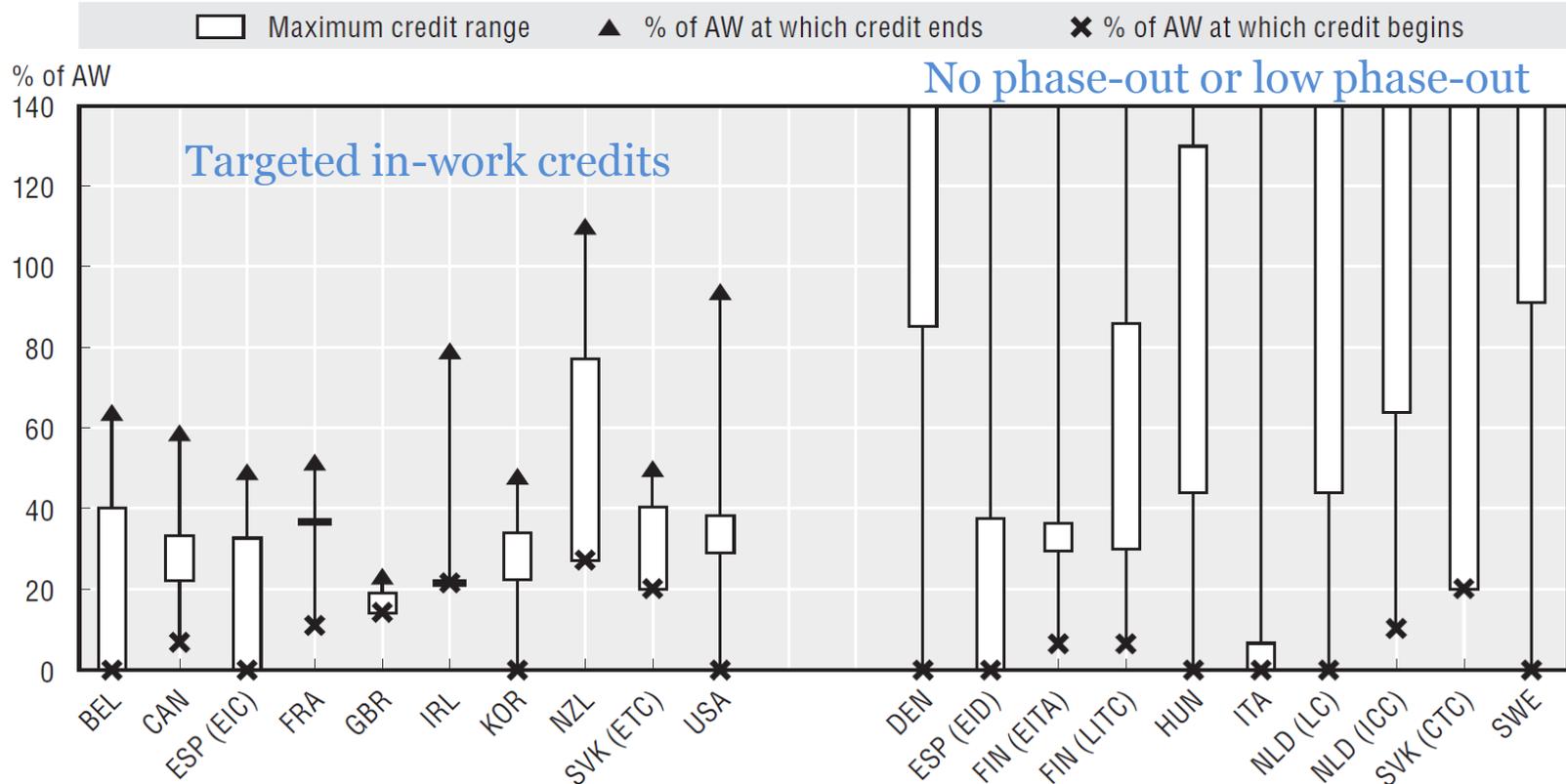
- More than half of U.S. states offer “add on” EITCs
- A total of 17 OECD countries have in-work credits
 - Early adopters: UK (1971), US (1975), Ireland (1984)
 - Past 15 years has seen many countries adopting these policies
 - Particularly relevant in the European context is the interest in counteracting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

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,

Figure 2.8. **Maximum credit size of in-work tax credit schemes (for single parent with two children), 2010¹**

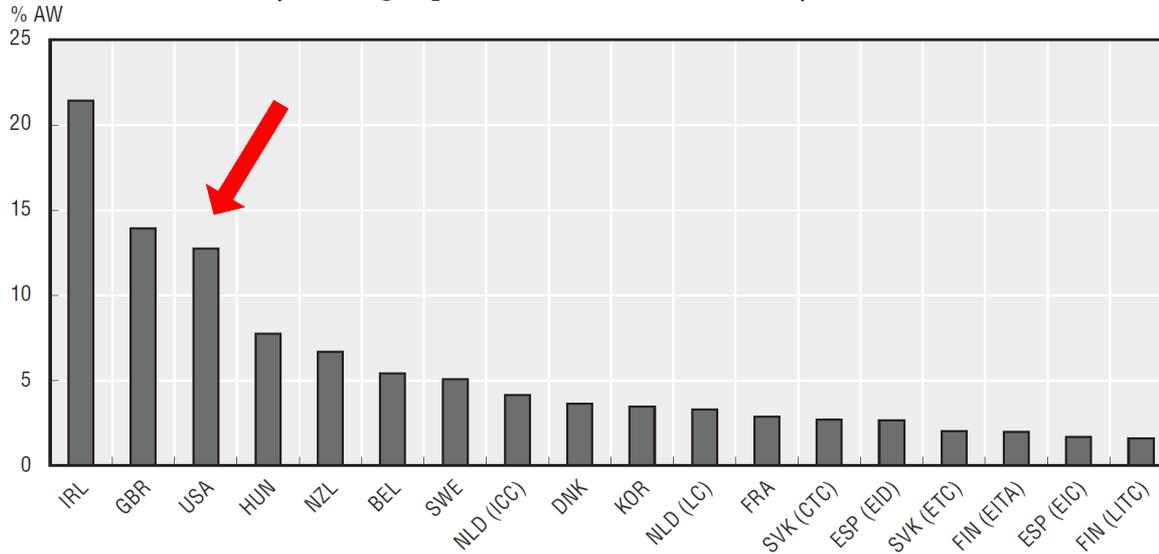
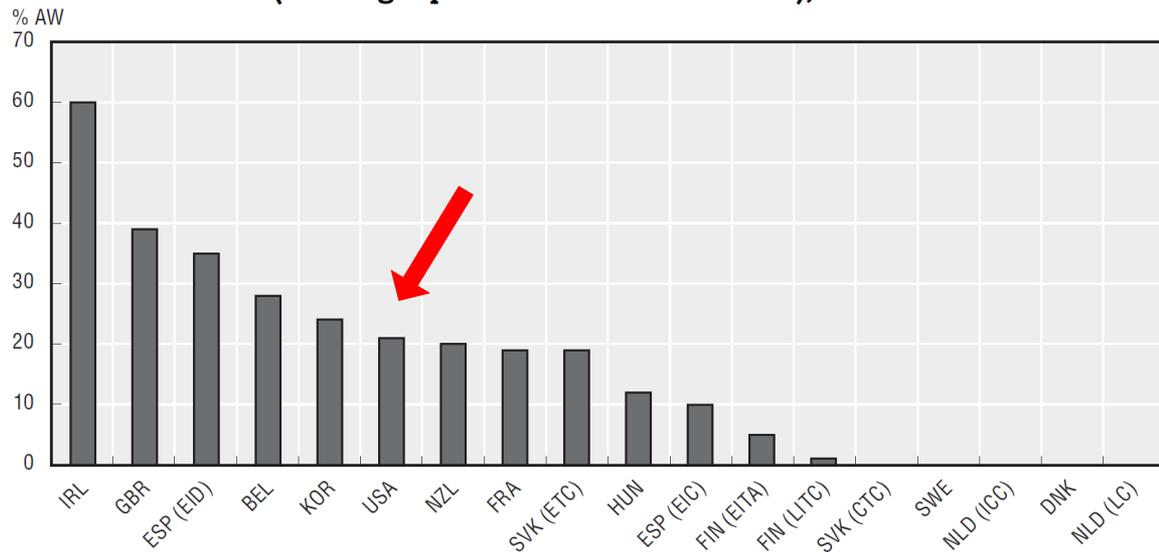


Figure 2.9. **Primary phase-out rates of in-work tax credit schemes (for single parent with two children), 2010¹**



A big tax season: launch of the California EITC

★ 2016 ★

A new year brings a new budget



and more money for hardworking Californians.

It's money for you.
It's money for your family.
Did you know you can get money just by filing your taxes?

CA working families could get up to **\$6,000** from state and federal credits.

Visit CalEITC.com to find out how much you get from state and federal credits and how they help bring your tax returns.

A new tax credit is available!
The California Earned Income Tax Credit (CalEITC) is a new state tax credit that will provide cash to the pockets of working families.

Visit CalEITC.com only now to find out how much you can get back just for filing your tax returns. And while you're there, find a volunteer who can help file your tax returns for free!

IT'S YOUR MONEY
GET IT!
California Earned Income Tax Credit



A new tax credit for the poor
Hi, Professor Budget here. As part of his revised budget, Gov. Jerry Brown on Thursday unveiled a proposal to create an "earned income tax credit" that would piggyback on the federal income-tax program of the same name.



It's only for the poorest of California's working poor – those with an annual income less than **\$6,580** and no dependents, or **\$13,870** with three or more dependents.

But the credit would help **2 million people**, with an average household benefit of **\$460** and a maximum benefit of **\$2,653**.

Next year, it would cost the state about **\$380 million** in reduced tax revenue.

BAY AREA NEWS GROUP

Options for a state EITC in CA [LAO REPORT]

- Most states have refundable tax credits, simple % of federal credit
- CALIFORNIA DID SOMETHING DIFFERENT

Figure 6
State EITCs in 2014

State	State EITC as Percent of Federal EITC	Refundable?
District of Columbia	40.00%	Yes
Vermont	32.00	Yes
New York	30.00	Yes
Connecticut	30.00	Yes
Maryland	25.00	Yes ^a
Delaware	20.00	No
New Jersey	20.00	Yes
Virginia	20.00	No
Kansas	17.00	Yes
Massachusetts	15.00	Yes
Iowa	14.00	Yes
Illinois	10.00	Yes
Nebraska	10.00	Yes
New Mexico	10.00	Yes
Ohio	10.00	No
Indiana	9.00	Yes
Oregon	8.00	Yes
Michigan	6.00	Yes
Maine	5.00	No
Oklahoma	5.00	Yes
Rhode Island	3.75	Yes ^b
Louisiana	3.50	Yes

The California EITC

FIGURE 1 The California EITC by family size and income, 2015

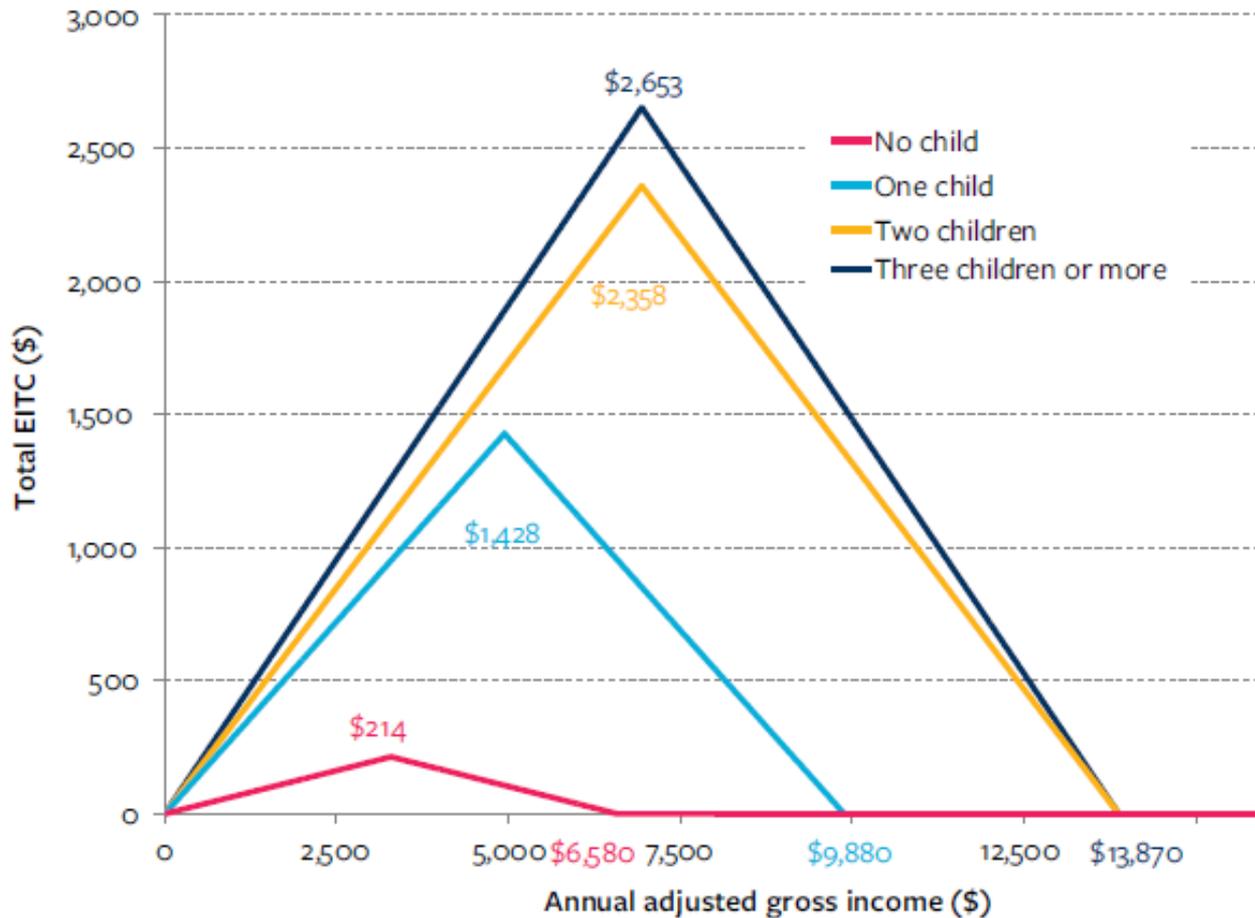


FIGURE 2 Value of the California and federal credits for a single filer with two children,

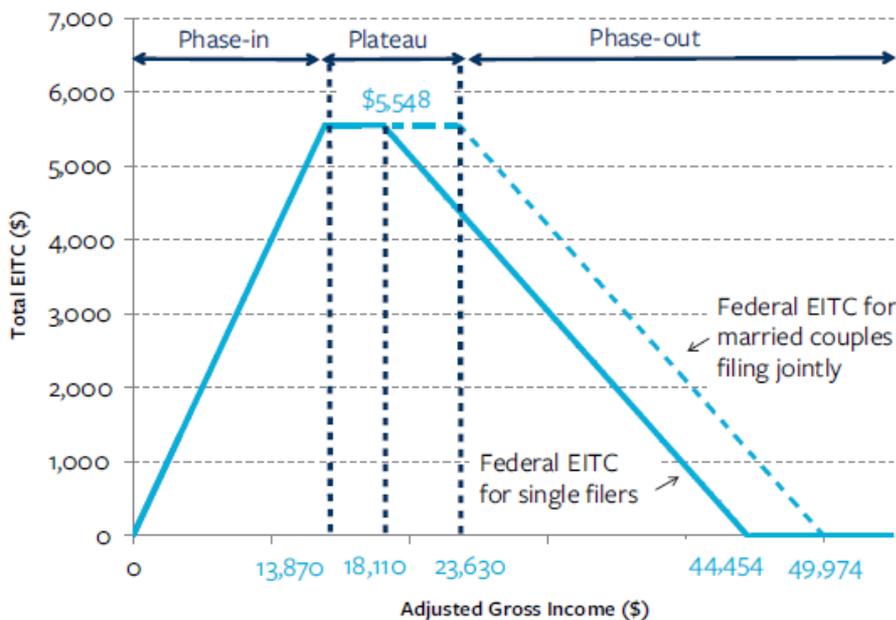
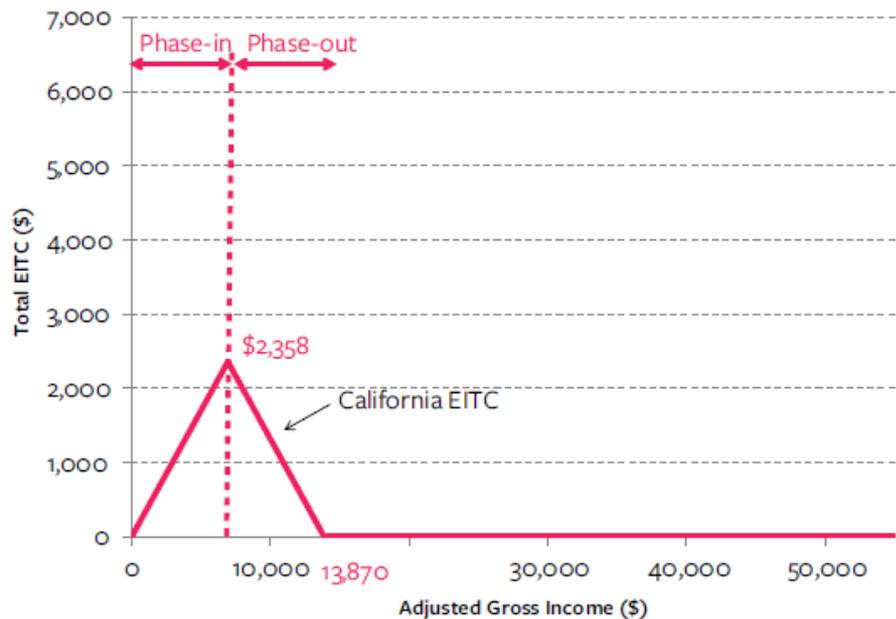
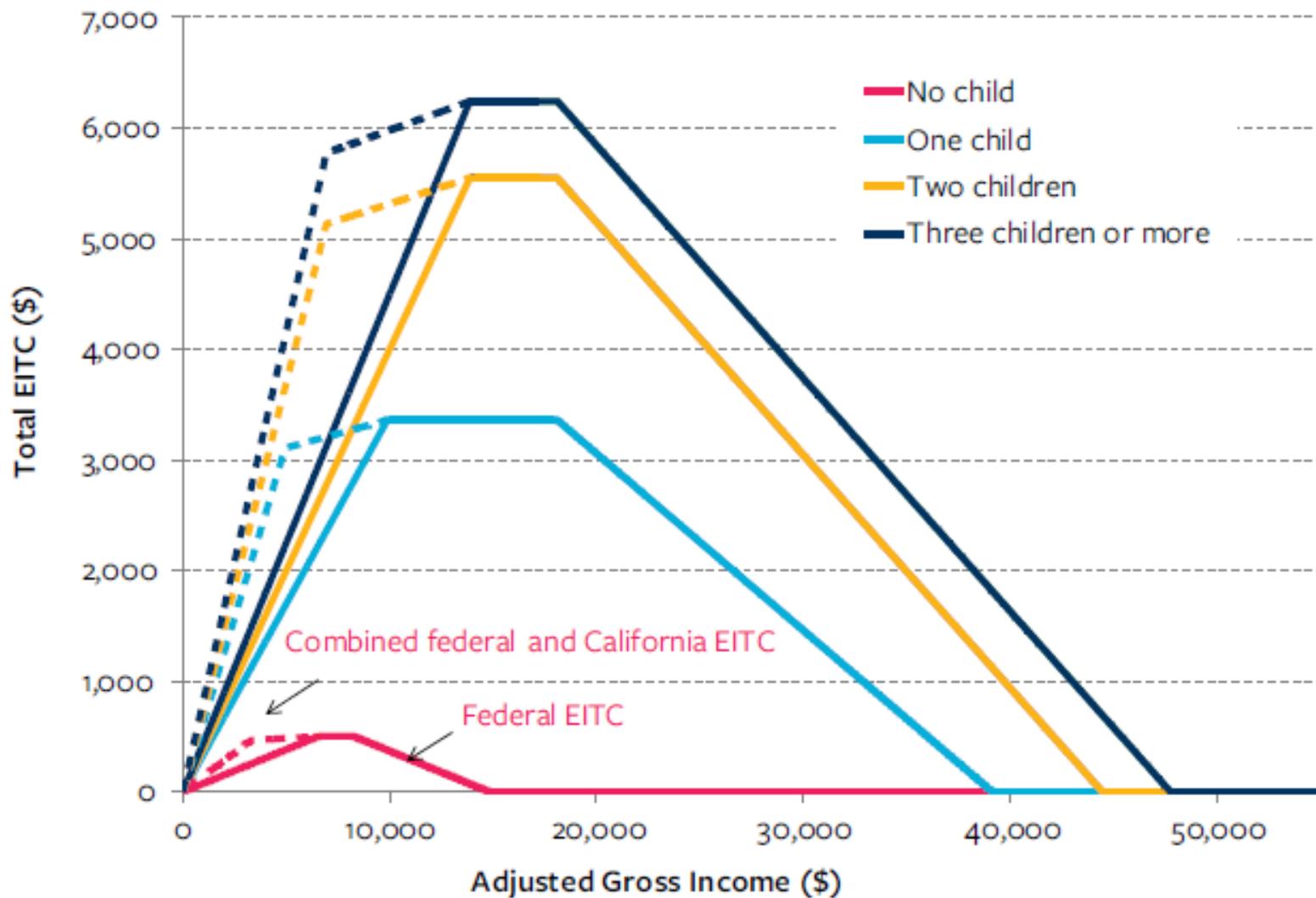


FIGURE 3 Value of the combined California and federal EITC for single filers, 2015



Distinct features of CA EITC

- Most states EITC are simple supplements of federal credit (e.g. 20% of federal)
- The CA EITC instead:
 - Focuses on the extreme poor: eligibility limited to those $\leq \$13,870$, only about 1/5 of Californians eligible for federal credit will be eligible for CA credit (Montialoux and Rothstein 2015)
 - Excludes self employment income

What might the credit do?

- The predictions are equivalent to those for the federal credit:
 - Increases in labor supply (especially for single parents)
 - Increases in income, reductions in poverty
 - Increase in family well being

Diving in deeper: Implications of the CA design

1. More benefits to extreme poor
 - This is important in the wake of evidence on the rising rate of extreme poverty in the U.S. (Edin and Shaefer 2015, Bitler and Hoynes 2015)
2. Uncertain that labor supply effects found for the federal credit will be as large here; harder to employ?
3. Excluding self employment income is likely to affect a substantial share of the population
4. Focusing on extreme poor leads to challenges for ensuring take-up rate: nationwide take-up is 80-85% but is lower for nonfilers / those with lowest income levels

Possible policy goals?

- Encourage work
- Supplement Resources of Working Families at Specific Income Levels
- Fill In Perceived Gaps in the Federal EITC (e.g. childless adults)

Criteria

- Administrative burden
- Revenue loss

Food and Nutrition Programs

PP290

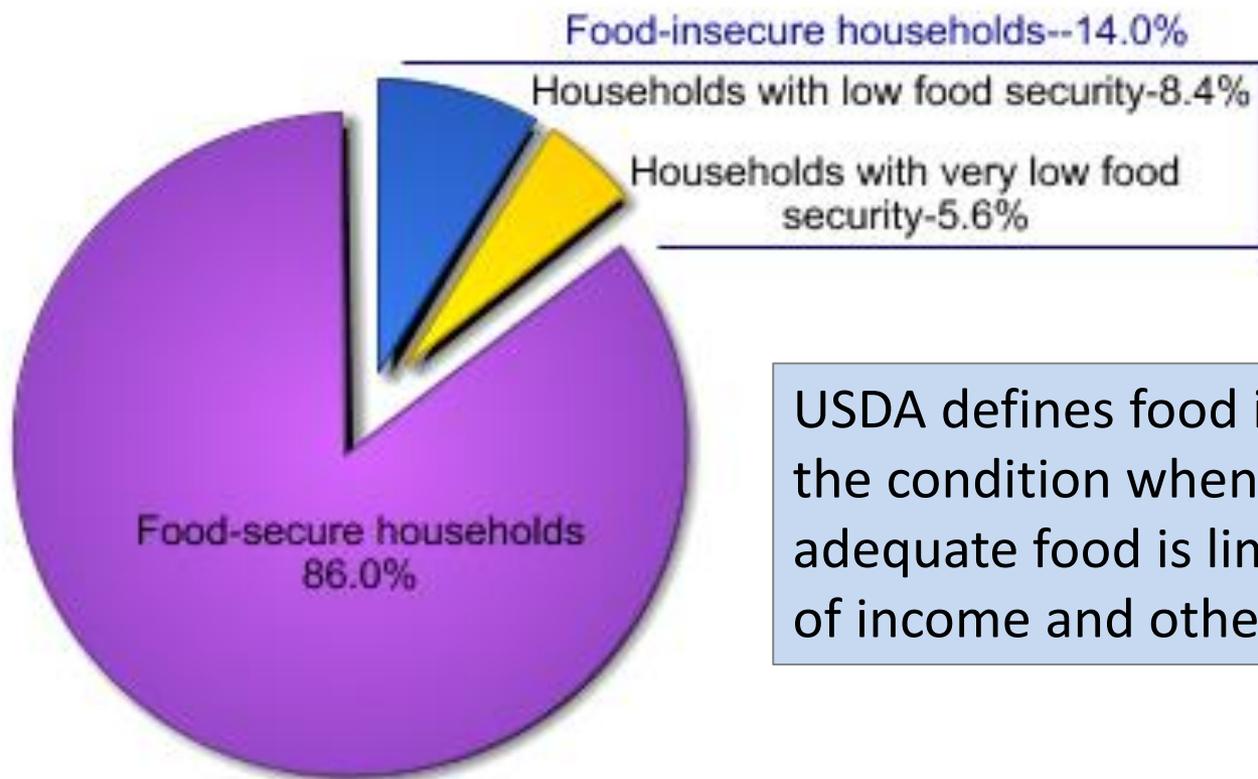
Hilary Hoynes

Outline for lectures

- Hunger and food insecurity (data, trends)
- Overview of main programs
 - SNAP, WIC, School Lunch, School Breakfast
- Economics of cash vs. in-kind programs
 - Use different food and nutrition programs as examples
- What we know about what food and nutrition programs do
 - Difficult to evaluate
 - Summary of the research
- On the policy frontier: restrictions and incentives
 - Massachusetts HIP
 - Schanzenbach Hamilton Project Proposal

1. Food insecurity and hunger

U.S. households by food security status, 2014



USDA defines food insecurity to be the condition when access to adequate food is limited by a lack of income and other resources.

Source: Calculated by ERS using data from the December 2014 Current Population Survey Food Security Supplement.

Food Insecurity – measurement

10 questions asked of all households

Questions Used To Assess the Food Security of Households In the CPS Food Security Survey

1. “We worried whether our food would run out before we got money to buy more.” Was that often, sometimes, or never true for you in the last 12 months?
2. “The food that we bought just didn’t last and we didn’t have money to get more.” Was that often, sometimes, or never true for you in the last 12 months?
3. “We couldn’t afford to eat balanced meals.” Was that often, sometimes, or never true for you in the last 12 months?
4. In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn’t enough money for food? (Yes/No)
5. (If yes to question 4) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
6. In the last 12 months, did you ever eat less than you felt you should because there wasn’t enough money for food? (Yes/No)
7. In the last 12 months, were you ever hungry, but didn’t eat, because there wasn’t enough money for food? (Yes/No)
8. In the last 12 months, did you lose weight because there wasn’t enough money for food? (Yes/No)
9. In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)
10. (If yes to question 9) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?

If a household answers yes to 3 or more of these questions, then designated as having Low Food Security, or being Food Insecure.

Food Insecurity – measurement

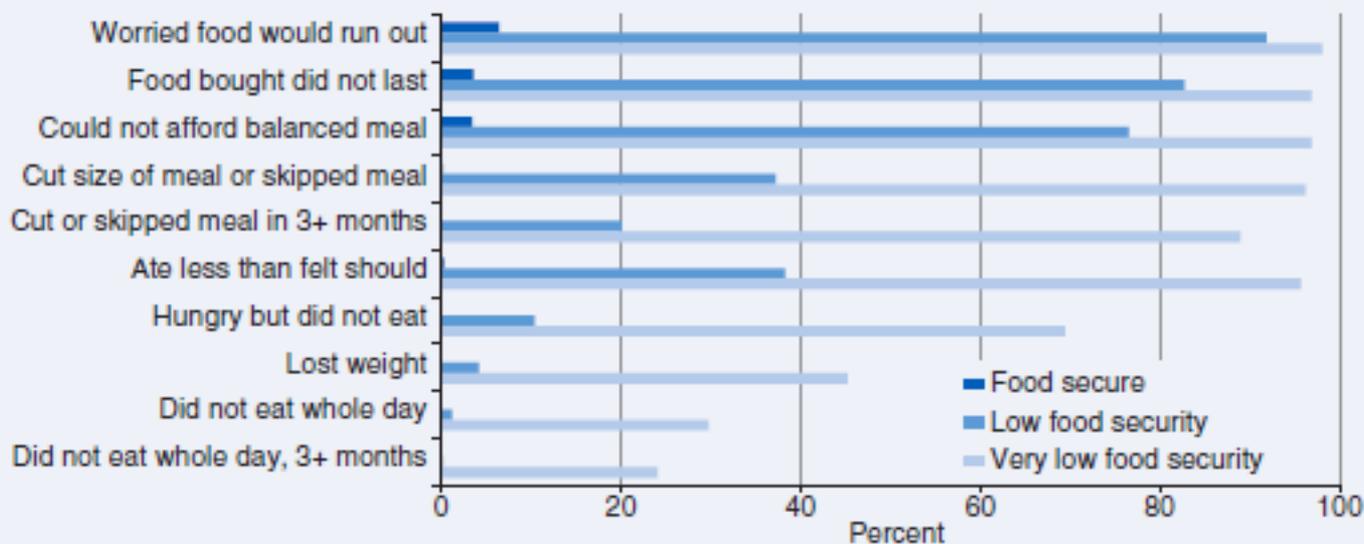
8 questions asked of households with children

(Questions 11-18 were asked only if the household included children age 0-17)

11. “We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food.” Was that often, sometimes, or never true for you in the last 12 months?
12. “We couldn’t feed our children a balanced meal, because we couldn’t afford that.” Was that often, sometimes, or never true for you in the last 12 months?
13. “The children were not eating enough because we just couldn’t afford enough food.” Was that often, sometimes, or never true for you in the last 12 months?
14. In the last 12 months, did you ever cut the size of any of the children’s meals because there wasn’t enough money for food? (Yes/No)
15. In the last 12 months, were the children ever hungry but you just couldn’t afford more food? (Yes/No)
16. In the last 12 months, did any of the children ever skip a meal because there wasn’t enough money for food? (Yes/No)
17. (If yes to question 16) How often did this happen—almost every month, some months but not every month, or in only 1 or 2 months?
18. In the last 12 months did any of the children ever not eat for a whole day because there wasn’t enough money for food? (Yes/No)

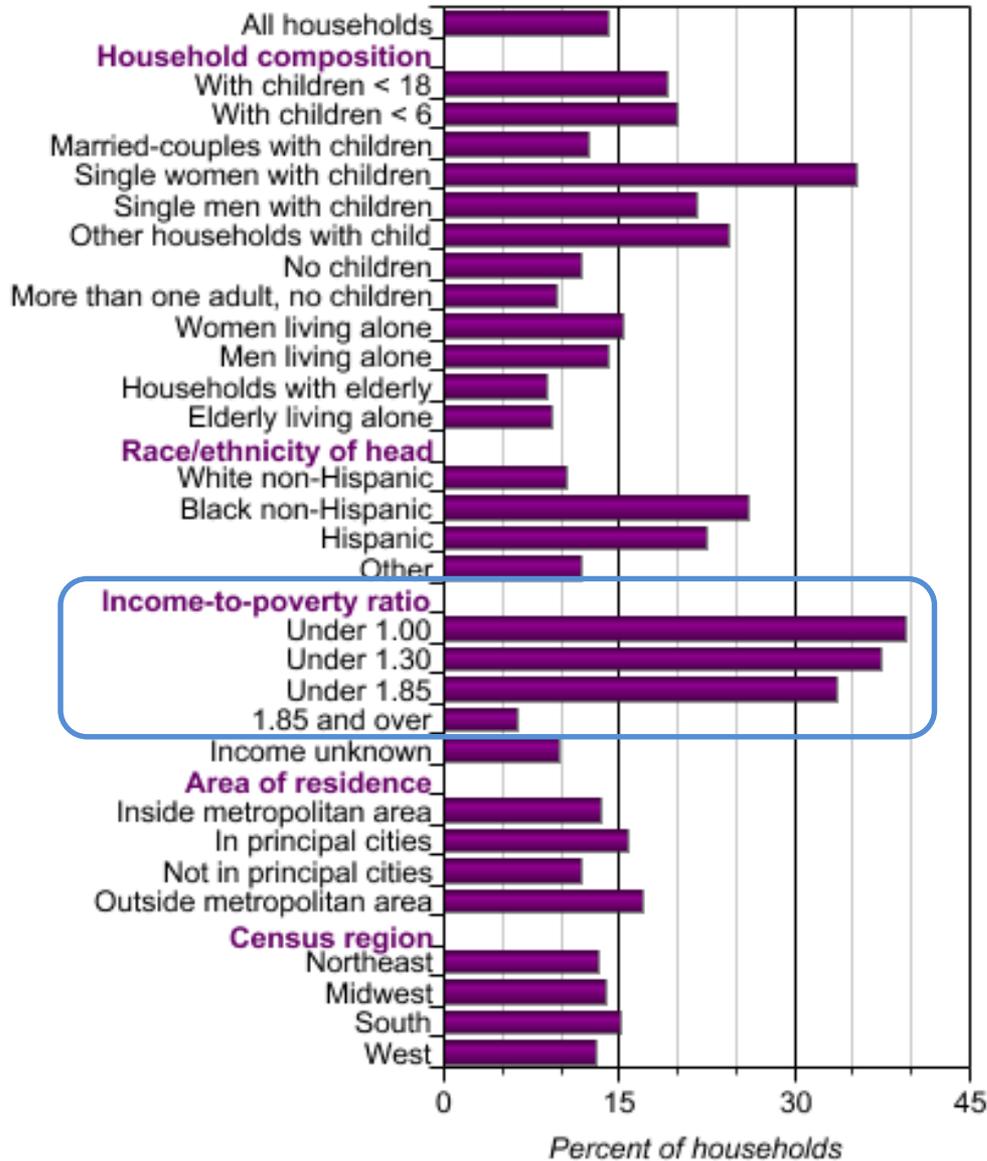
Very Low Food Security Among Children – yes to 5 or more of the child specific questions

Percentage of households reporting each indicator of food insecurity, by food security status, 2014



Source: USDA, Economic Research Service using data from U.S. Department of Commerce, U.S. Census Bureau, 2014 Current Population Survey Food Security Supplement.

Prevalence of food insecurity, 2014

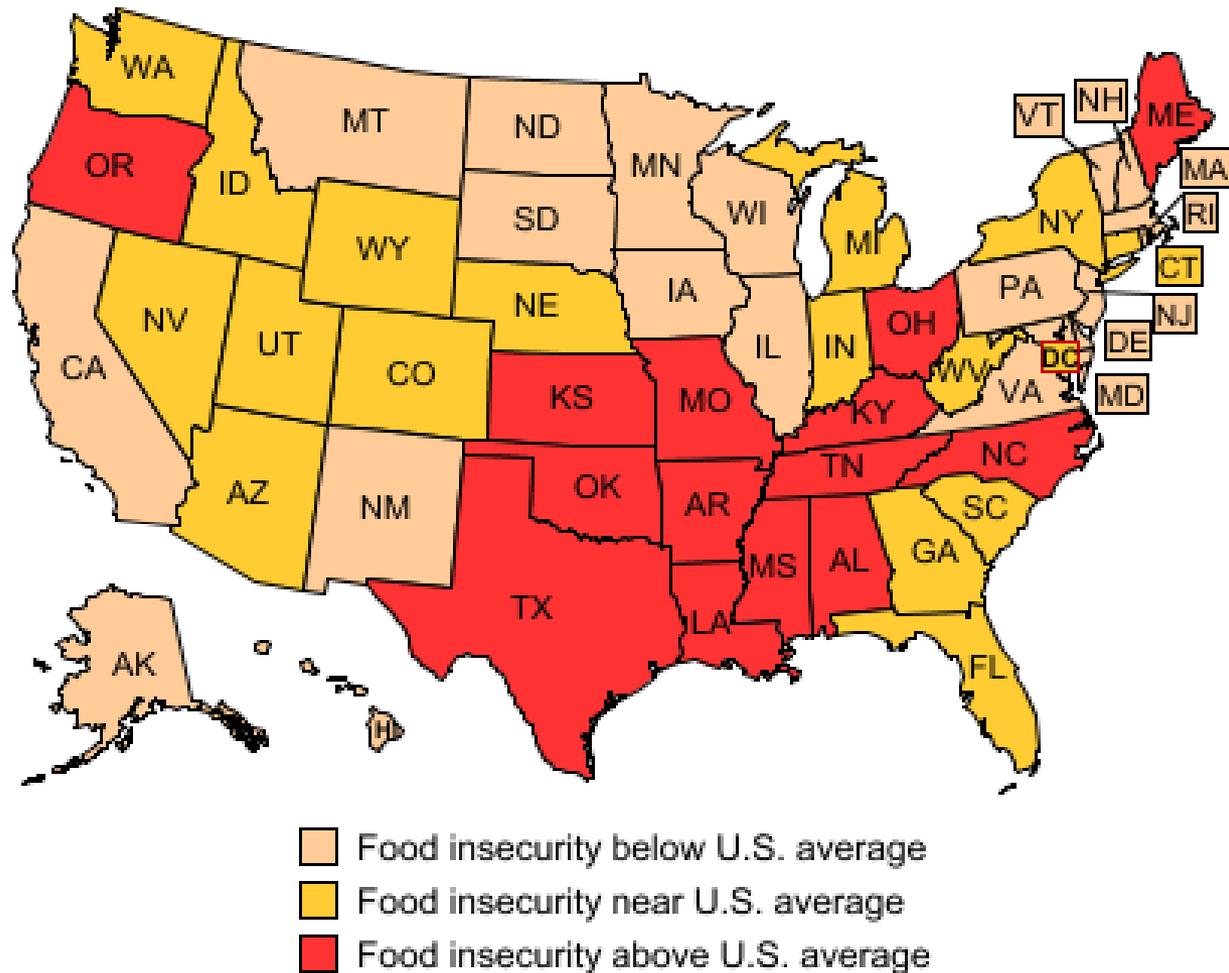


Higher rates of food insecurity among:

- Children, racial and ethnic minorities

Economic resources are a particularly strong determinant of food insecurity

Prevalence of food insecurity, average 2012-14

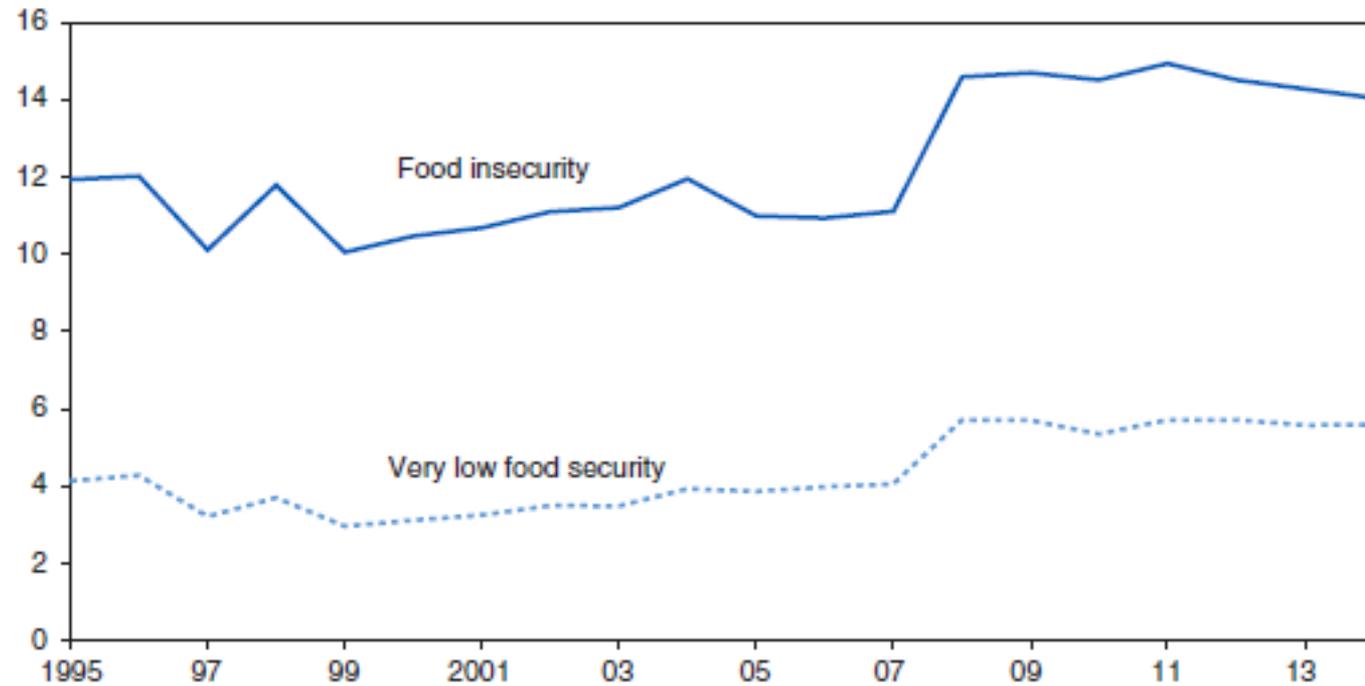


Source: Calculated by ERS based on Current Population Survey Food Security Supplement data.

Figure 3

Trends in the prevalence of food insecurity and very low food security in U.S. households, 1995-2014¹

Percent of households



¹Prevalence rates for 1996 and 1997 were adjusted for the estimated effects of differences in data collection screening protocols used in those years.

Source: USDA, Economic Research Service using data from U.S. Department of Commerce, U.S. Census Bureau, Current Population Survey Food Security Supplement.

2. Overview of programs and rules

SNAP	WIC	Lunch	Breakfast
1961: pilot 1975: permanent	1972: pilot 1974: permanent	1946	1966: pilot 1975: permanent
\$74.1B (2014)	\$6.2B	\$11.3B	\$3.7B
Low-income households (universal)	Low-income pregnant, postpartum women, infants <1, children <5	Low-income school children	Low-income school children
46.5 M individuals/month (2014)	8.26 M individuals	19.1M free 2.5M reduced-price	10.4M free 1.0M reduced-price
Monthly benefit via EBT	Voucher for specific goods & quantities; Nutrition educ, screening	Lunches conforming to latest <i>Dietary Guidelines</i> standards	Breakfasts conform. to latest <i>Dietary Guidelines</i> standards
Household benefits	Individual benefits	Individual benefits	Individual benefits

SNAP	WIC	Lunch	Breakfast
Max = \$511/month (3-person family), Avg = \$133/pers./month \$275/HH/month	Food package varies by need (infant formula)	Reimbursement rate (avg): \$3.06/free; \$2.66 reduced	Reimbursement rate (avg): \$1.93 free; \$1.63 reduced
Gross inc <1.3*FPL; Net inc < 1.0*FPL assets <\$2250; universal w/restrictions on able-bodied adults	Gross income <1.85*FPL; At “nutritional risk”	Subsidies: Free: Inc.<1.3*FPL RP: Inc.<1.85*FPL (categorical for SNAP recipients)	(same as lunch)
BRR: 0.3*net income	None: eligible for all or nothing	Discontinuity at 1.3 & 1.85*FPL	Discontinuity at 1.3 & 1.85*FPL
Least in-kind: Voucher for dollar value	Voucher for quantity (price insensitive)	Most in-kind: Meal	Most in-kind: Meal
	Elig. if on SNAP	Elig. if on SNAP	Elig. if on SNAP

SNAP is the biggest USDA program

Share of spending by program, 2014

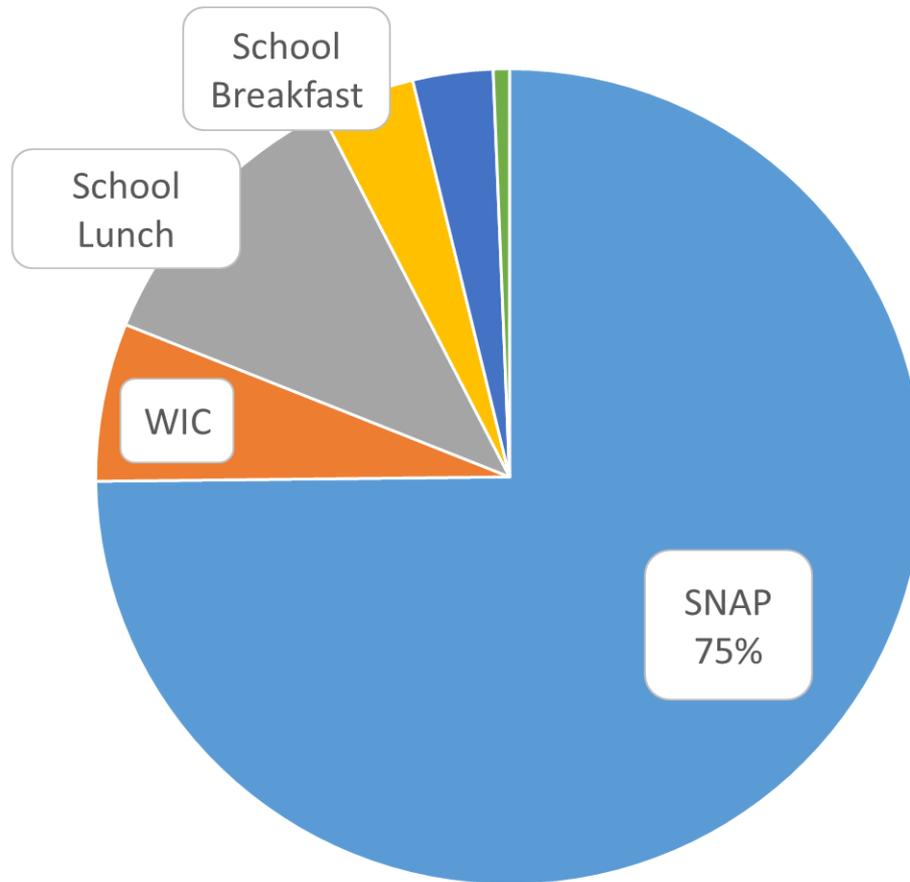
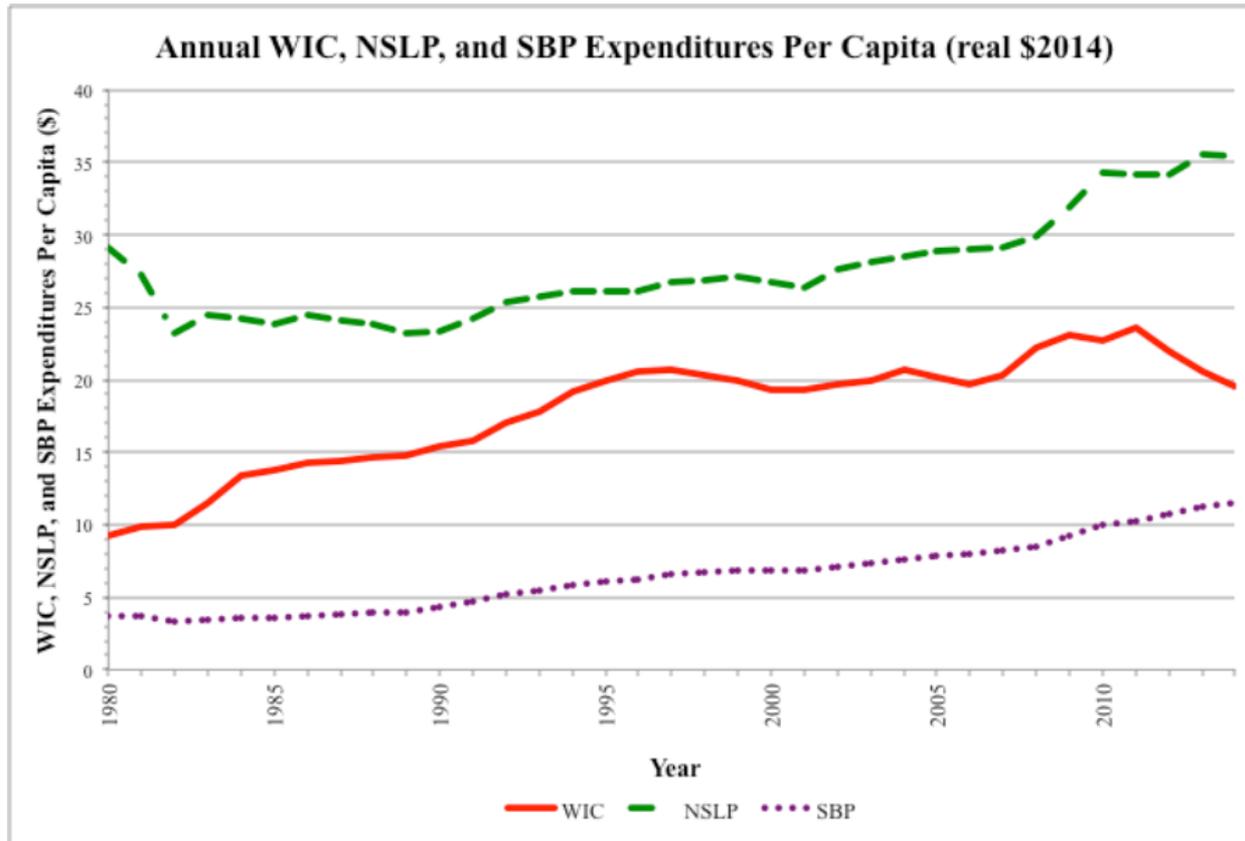


Figure 2.2 Real per capita expenditures for WIC, NSLP and SBP, 1980-2014 (real 2014 dollars)



Source: USDA WIC, NSLP, and SBP program data, <http://www.fns.usda.gov/pd/wic-program>, <http://www.fns.usda.gov/pd/child-nutrition-tables>

FNP in the broader social safety net

Federal Spending on Selected Means-Tested Programs and Tax Credits, 2012

(Billions of dollars)



Source: Congressional Budget Office.

SNAP Eligibility and Benefits

- Means tested: eligibility requires gross monthly income to be below 130 percent of poverty, net income below 100 percent poverty
- Benefits phased out as income increases (as with traditional out of work welfare program)
- Benefits are vouchers that can be used at grocery stores and most households combine cash and SNAP to buy food
- Now distributed through debit cards
- Used to purchase most food items available in stores
 - Exceptions include ready to eat foods, alcohol
- Federal program; no area variation and few reforms over time → *challenge for evaluation*

SNAP: other important details

- Closest thing to universal safety net in the U.S.
 - Eligibility is virtually universal (some restrictions for able bodied recipients without dependents)
 - Eligibility depends on need (income and asset requirement)
- Consumers have scope to be sensitive to price
- Time limited benefits for able-bodied adults
ABAWDs
- No market failure, just income support
- Plays important automatic stabilizer role
(entitlement, rises with need)



FDR signing the Agricultural Adjustment Act. The government bought basic farm commodities and distributed them through stamps

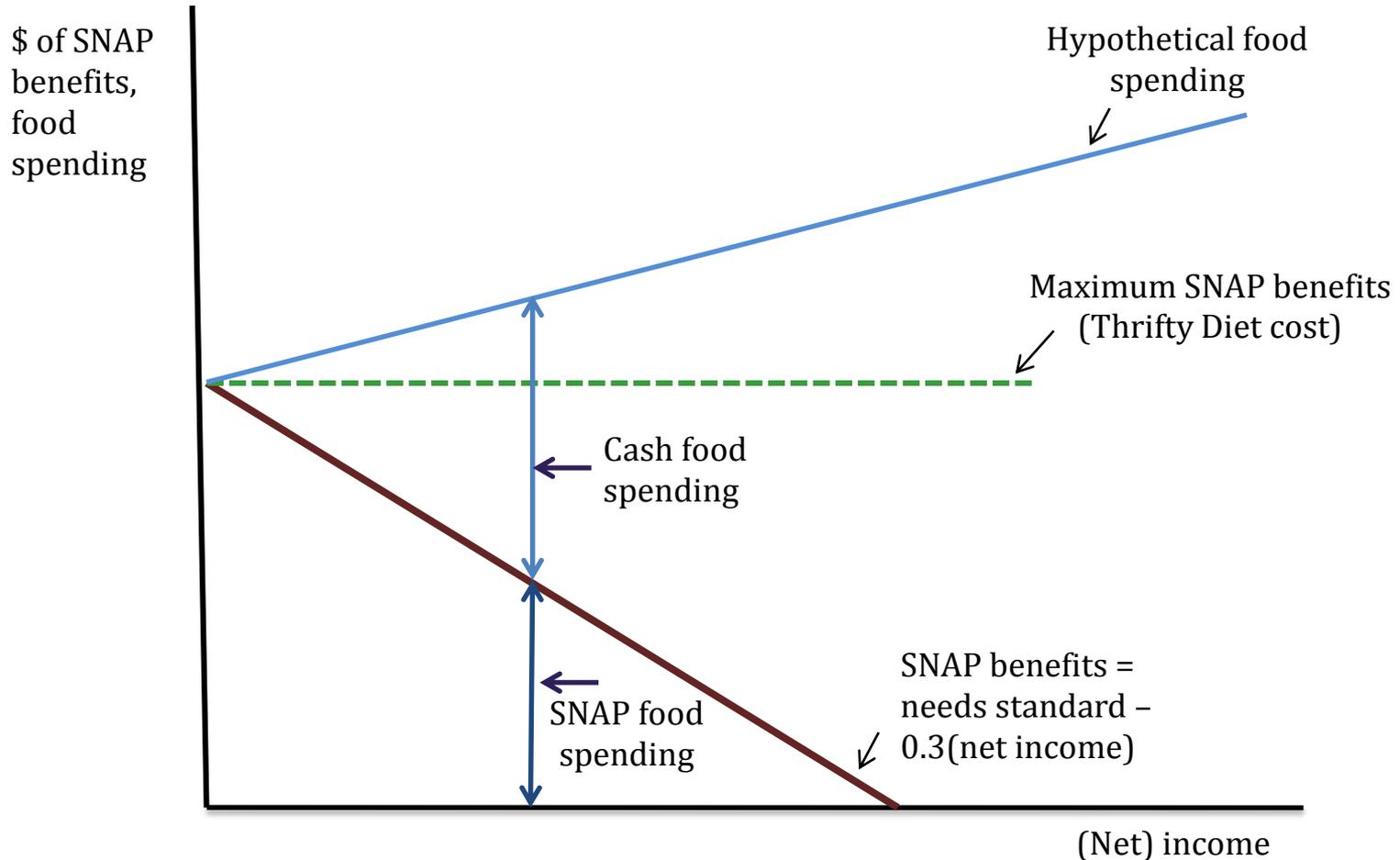


First printing of SNAP (food stamps), Washington D.C., April 20, 1939



- $B_F = G - 0.3 * (\text{Net Income})$
- Net income = pre-tax cash income – standard deduction, 20% earnings, excess shelter deduction, medical & child care deduction

SNAP Benefits Formula + Spending



WIC: important details

- Specific basket of goods (for pregnant, nursing, infants, children)
- Fixed bundle; all income eligible get the full bundle (no phase-out)
- Categorical eligibility is individual (e.g. infant, child, etc.)
- Quantity voucher
 - Interesting pricing incentives for firms, depending on % customers on WIC and fraud detection (Meckel 2014)
- Recent changes in bundle: added fruits/veg; expanded dairy options; added whole grains
 - 2007: interim
 - 2014: permanent

Table 1.2 WIC Food Packages - Maximum Monthly Allowances

Food Package	Recipient	Food
I	Infants, fully formula fed (0-5 months)	WIC formula: 823 fl oz reconstituted liquid concentrate (0-3 months) WIC formula: 896 fl oz reconstituted liquid concentrate (4-5 months)
	Infants, partially breastfed (0-5 months)	WIC formula: 104 fl oz reconstituted powder (0-1 month) WIC formula: 388 fl oz reconstituted liquid concentrate (1-3 months) WIC formula: 460 fl oz reconstituted liquid concentrate (4-5 months)
II	Infants, fully formula fed (6-11 months)	WIC formula: 630 fl oz reconstituted liquid concentrate Infant cereal: 24 oz Baby food fruits & vegetables: 128 oz
	Infants, partially breastfed (6-11 months)	WIC formula: 315 fl oz reconstituted liquid concentrate Infant cereal: 24 oz Baby food fruits & vegetables: 128 oz
	Infants, fully breastfed (6-11 months)	Infant cereal: 24 oz Baby food fruits & vegetables: 256 oz Baby food meat: 77.5 oz

Table 1.2 (continued)

Food Package	Recipient	Food
IV	Children: 1 - 4 years old	Juice, single strength: 128 fl oz Milk: 16 qt* Breakfast cereal: 36 oz Eggs: 1 dozen Fruits & vegetables: \$8.00 in cash value voucher Whole wheat bread: 2 lb** Legumes, 1 lb dry or 64 oz canned OR peanut butter, 18 oz
V	Pregnant and partially breastfeeding women (up to 1 year postpartum)	Juice, single strength: 144 fl oz Milk: 22 qt* Breakfast cereal: 36 oz Eggs: 1 dozen Fruits & vegetables: \$10.00 in cash value voucher Whole wheat bread: 1 lb** Legumes, 1 lb dry or 64 oz canned AND peanut butter, 18 oz

NSLP & SBP: important details

- Income eligibility done at schools (strange, not set up for doing this sort of thing)
- Recent changes in payment structures
 - Encouraging universal free meals
 - Function of participation in SNAP, multi-year eligibility
 - Free participation dramatically increased
 - Expansion of breakfast programs
- Feds regulate nutrition
 - Schools set menus
 - Profit maximizing subject to regulations
 - Students decide whether to participate based on price, food quality
- 2010 Healthy Hunger-Free Kids Act: major changes to nutritional standards for school breakfasts and lunches

2010 Healthy, Hunger-Free Kids Act

Table 1.5

Previous and Current School Meal Caloric Standards

Previous (pre HHFKA)	Current (post HHFKA)
<i>Lunch</i>	
grades K-3 Min: 633 Max: none	grades K-5 Min: 550 Max: 650
grades 4-12 Min: 785 Max: none	grades 6-8 Min: 600 Max: 700
grades 7-12 (optional) Min: 825 Max: none	grades 9-12 Min: 750 Max: 850
<i>Breakfast</i>	
grades K-12 Min: 554 Max: none	grades K-5 Min: 350 Max: 500
	grades 6-8 Min: 400 Max: 550
	grades 9-12 Min: 450 Max: 600

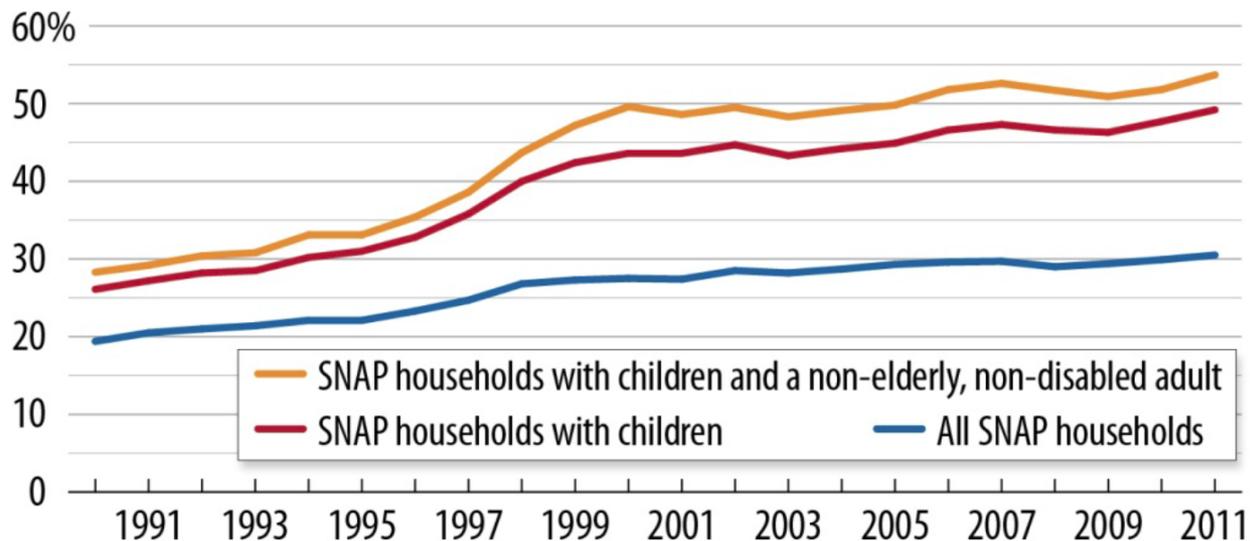
Also restrictions on 10% calories from saturated fats
Minimum daily fruit & veg, meats grains, milk

3. Program Statistics and Recipient Characteristics

Who receives SNAP?

Characteristics of SNAP Recipients	
Share with children	45
Share with elderly members	17
Share elderly, kids, or disabled	75

Work Rates Are High Among Households with Children and with Adults Who Could Be Expected to Work



Source: CBPP Tabulations of SNAP Quality Control Household Characteristics data.

Source: Hoynes and Schanzenbach (2015) [top] and Rosenbaum "The Relationship between SNAP and Work Among Low Income Households" [bottom]

Reach of the programs: Caseload as % of targeted pop

	1990	1995	2000	2005	2010	2012	2013	2014
<i>Caseload (as % Relevant Population)</i>								
SNAP	8.1	10.1	6.2	8.7	13.2	15.0	15.2	14.8
WIC								
Women (as % of all women aged 18-44)	1.9	2.9	3.1	3.6	3.9	3.7	3.6	3.5
Children 1-4	13.5	21.7	23.0	24.6	28.3	29.6	28.5	26.9
Infants < 1	35.3	46.5	48.5	50.5	52.9	53.4	53.8	51.9
NSLP (as % of children aged 5-17)								
Free and reduced price meals	25.0	28.0	29.1	32.6	38.4	39.5	39.7	39.8
Free meals	21.4	24.4	24.5	22.7	32.8	34.5	35.0	35.2
All meals	52.5	50.2	51.5	55.3	59.2	58.3	56.6	55.9
SBP (as % of children aged 5-17)								
Free and reduced price meals	7.6	10.7	12.0	14.3	18.1	19.9	20.6	21.1
Free meals	7.2	10.0	10.8	12.7	16.2	18.0	18.8	19.3
All meals	8.8	12.4	14.3	17.4	21.7	23.7	24.4	24.9

Table 2.2 Characteristics of SNAP Recipients

	1996	2000	2005	2010	2012
<u>All Food Stamp Households</u>					
Share with children	60	54	54	49	45
Share female heads with children	39	35	32	26	24
Share with elderly members	16	21	17	16	17
Share of individuals <18	47	47	47	44	43
Share of individuals >=65	9	10	7	5	6
Share no elderly, no kids, no disabled	15	11	16	24	25
Share with gross monthly income below poverty	91	89	88	85	82
Share with no cash income	10	8	14	20	20
Share with any earnings	23	27	29	30	31
Share with no net income	25	20	30	38	38
<u>Multiple program participation; share with income from:</u>					
AFDC/TANF	37	26	15	8	7
General Assistance	6	5	6	4	3
SSI	24	32	26	21	20
Social Security	19	25	23	21	23
Unemployment Insurance	2	2	2	7	5
Veterans Benefits	1	1	1	1	1

Source: Hoynes and Schanzenbach (2015)

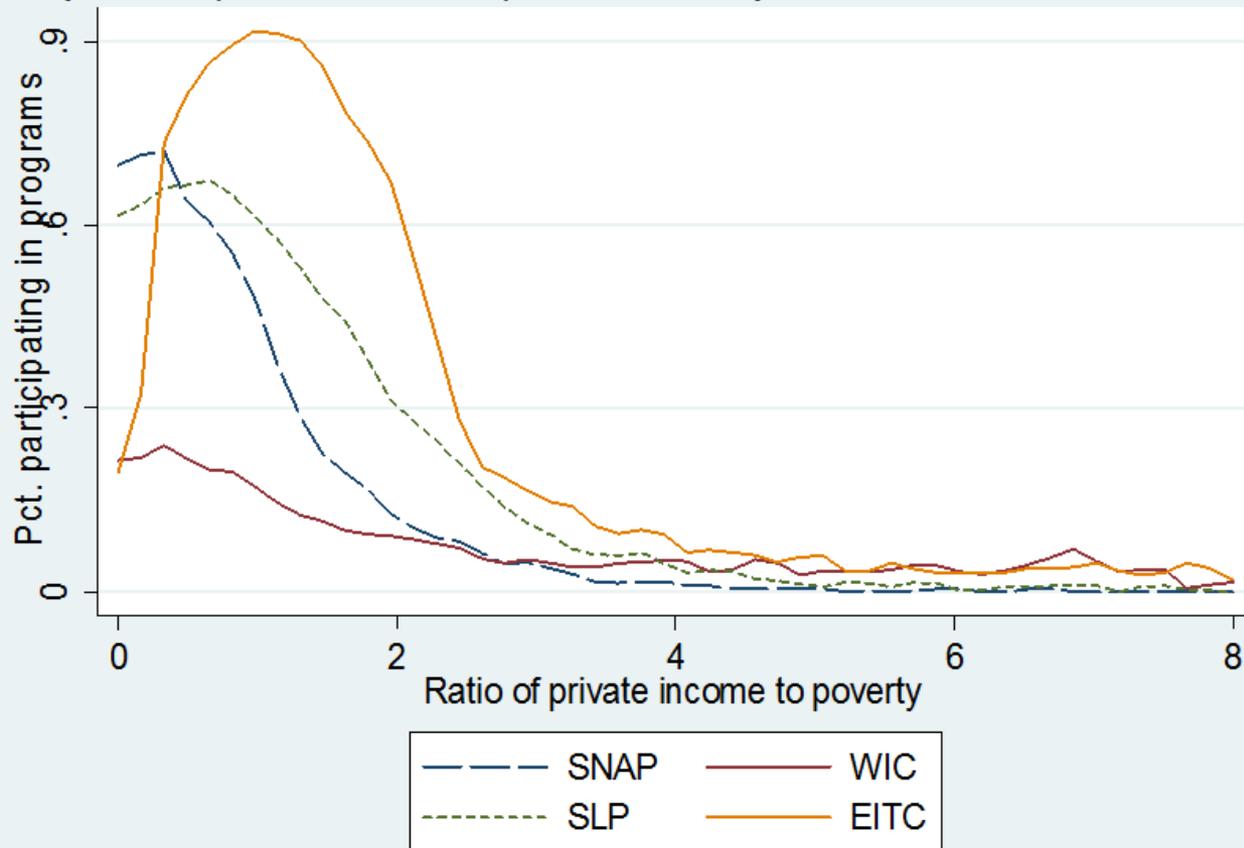
Table 2.4 Characteristics of WIC Recipients

	1994	2012
Income below 50% FPL	42	37
Income below 100% FPL	74	73
Income below 150% FPL	91	92
<u>Percent of women participants who are</u>		
Pregnant	52	43
Breastfeeding	17	29
Postpartum	<u>31</u>	<u>28</u>
	100	100
<u>Multiple program participation; percent with income from:</u>		
TANF	29	9
SNAP	40	37
Medicaid	58	72
SNAP and Medicaid	35	33
No TANF/SNAP or Medicaid	36	24

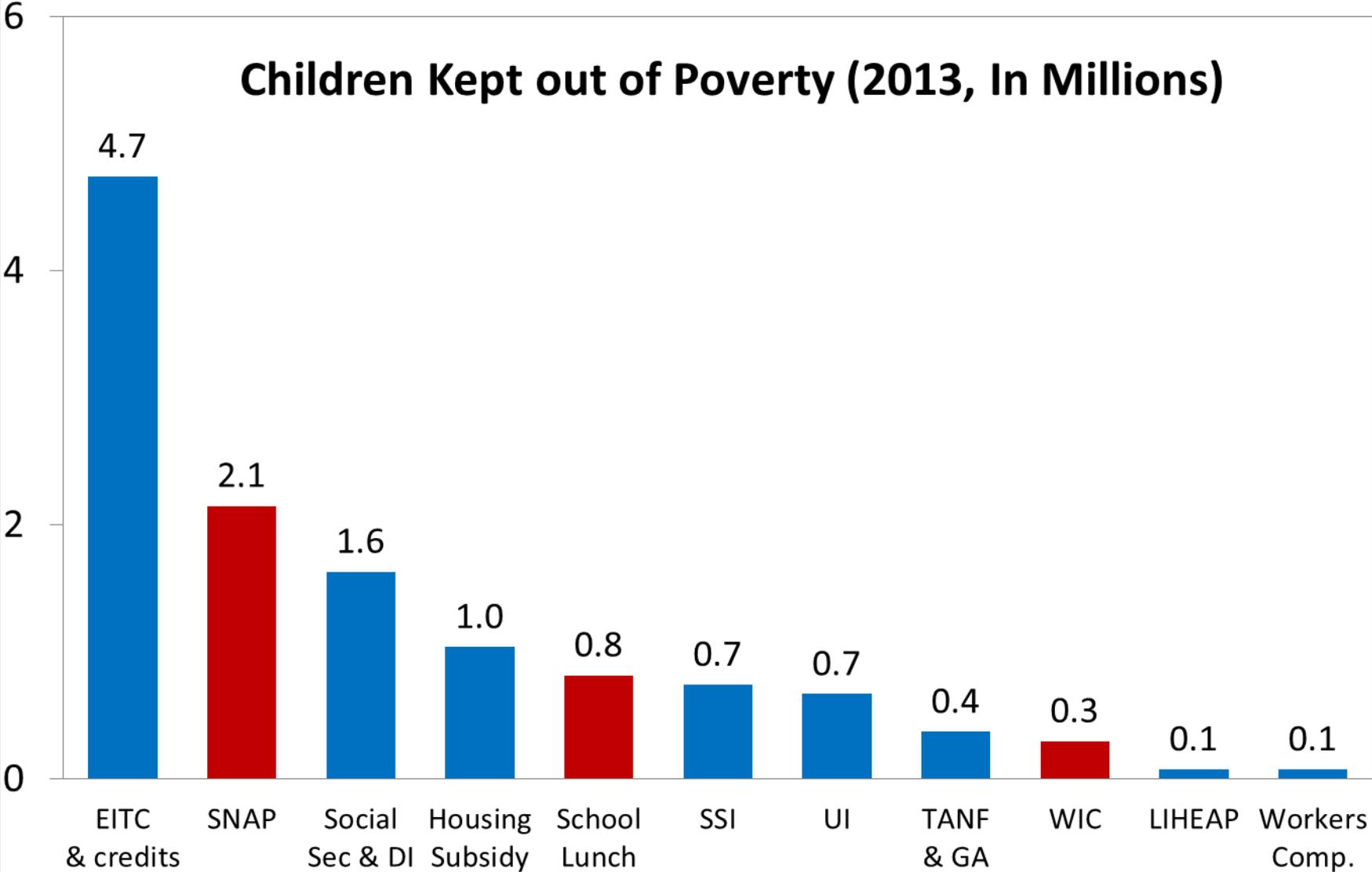
Annual Participation (millions persons)

WIC (total)	4.5	6.9	7.2	8.0	9.2	8.9	8.7	8.3
Women	1.0	1.6	1.7	2.0	2.1	2.1	2.0	2.0
Infants	1.4	1.8	1.9	2.0	2.2	2.1	2.0	2.0
Children	2.1	3.5	3.6	4.0	4.9	4.7	4.6	4.3

Kernel Density Plot of HH program participation,
by ratio of private income to pov., non-elderly hh heads in hhs with kids, 2013



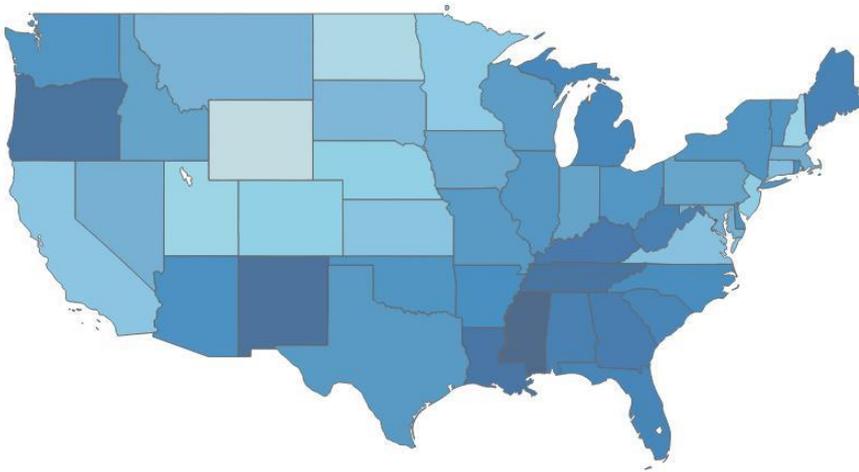
Children Kept out of Poverty (2013, In Millions)



Participation Rates by State

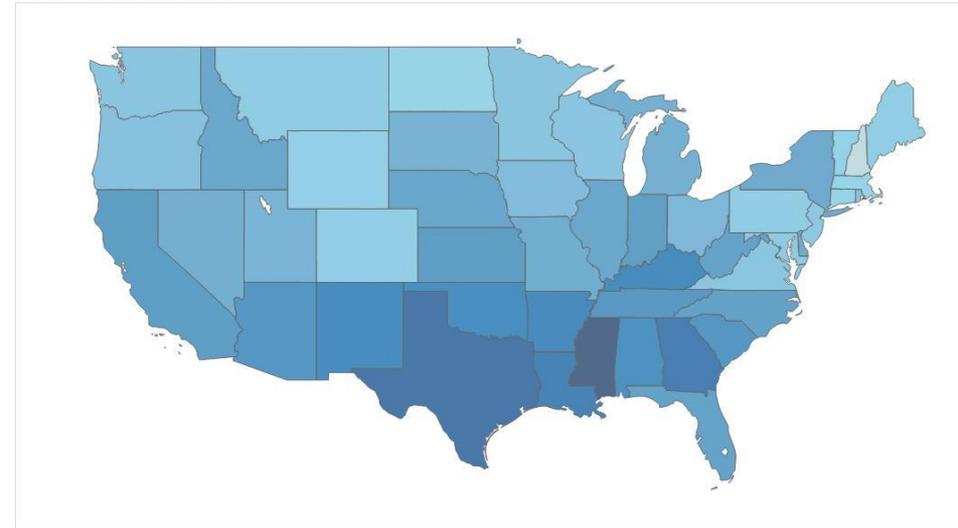
SNAP

SNAP Recipients/Population



Lunch

2013 NSLP Recipients/Population



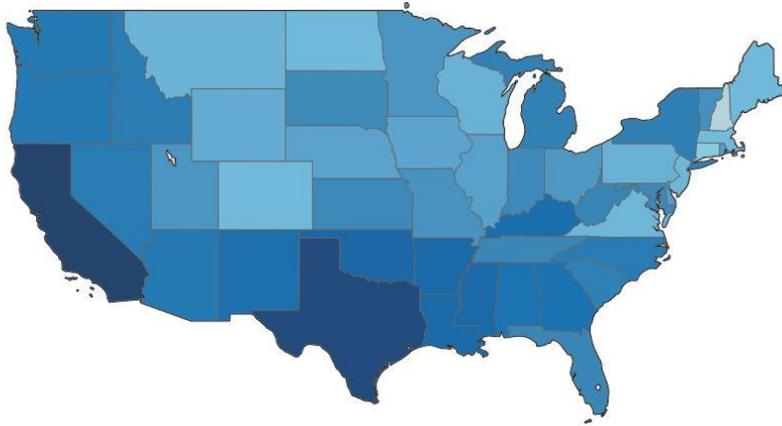
Map based on Longitude (generated) and Latitude (generated). Color shows sum of Recipients/Population. Details are shown for Region.

Map based on Longitude (generated) and Latitude (generated). Color shows sum of Recipients/Population. Details are shown for Region.

Participation Rates by State

WIC

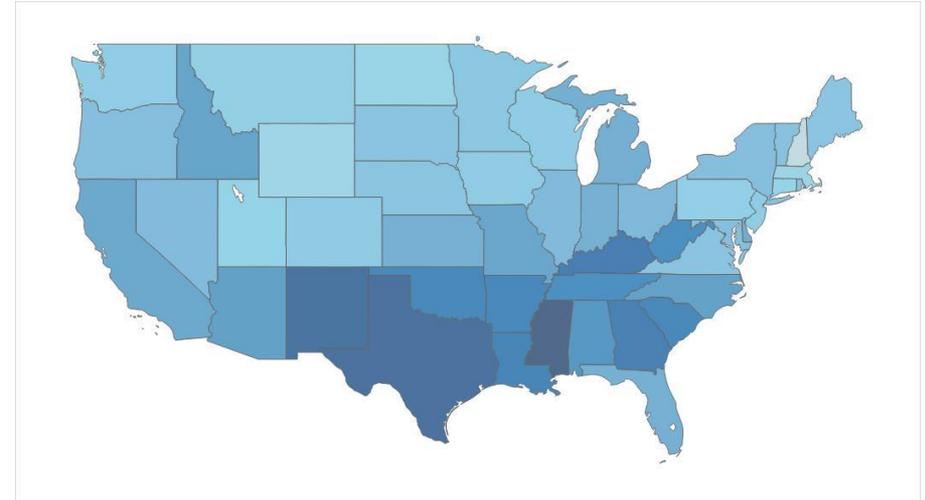
2013 WIC Recipients/Population



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Recipients/Population. Details are shown for Region.

Breakfast

2013 SBP Recipients/Population



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Recipients/Population. Details are shown for Region.

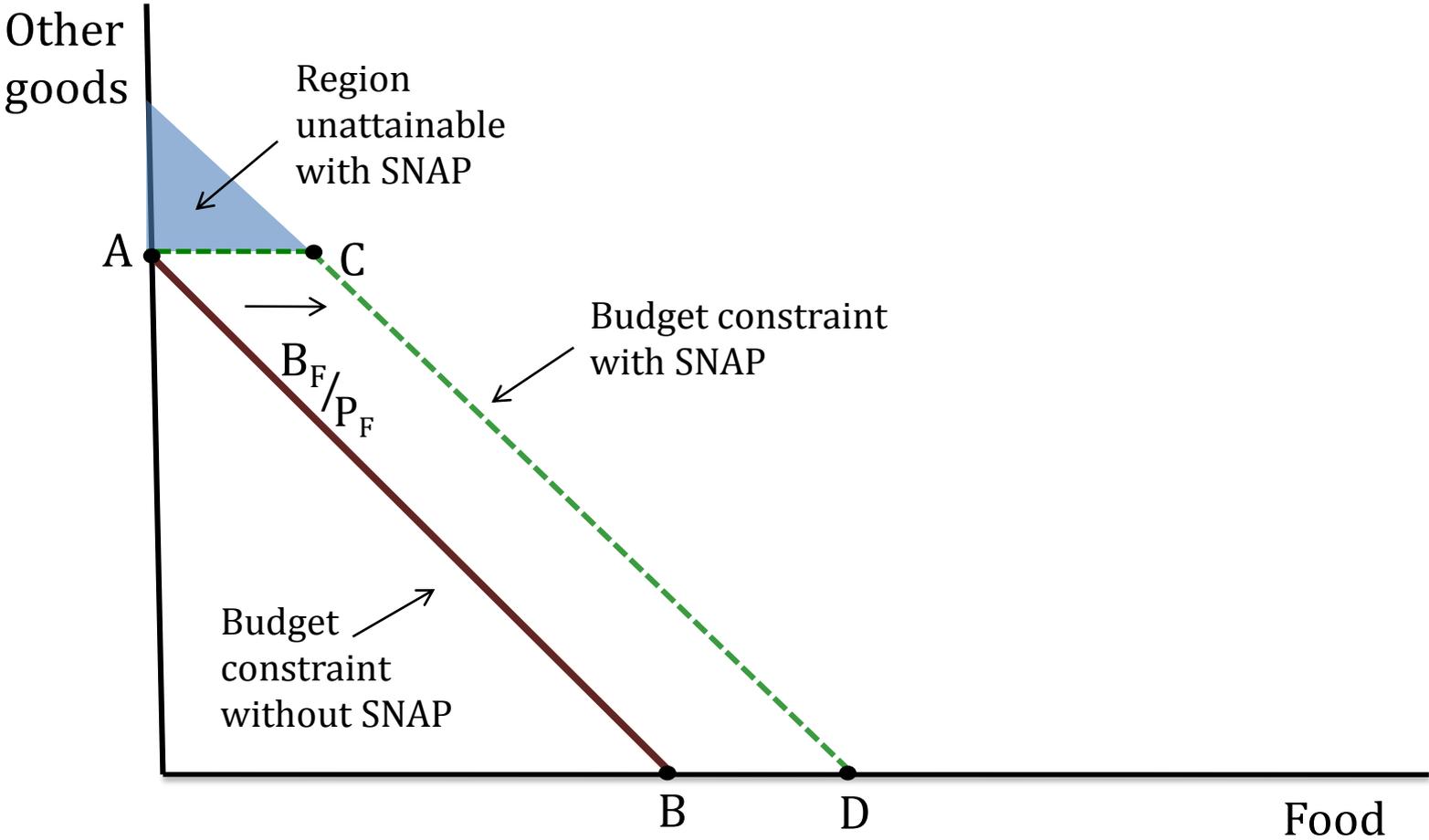
4. Economic predictions for food and nutrition programs

Main framing of the issues

1. Range of “in-kindness” in the programs
 - Cash > SNAP > WIC > School feeding
2. Programs should balance protection vs distortion
 - Protections: food insecurity/malnutrition particularly during critical periods, consumption smoothing
 - Distortions: reduce labor supply, DWL
3. Program design and effects on take-up

Expected effects on consumption

SNAP (unrestricted food voucher)

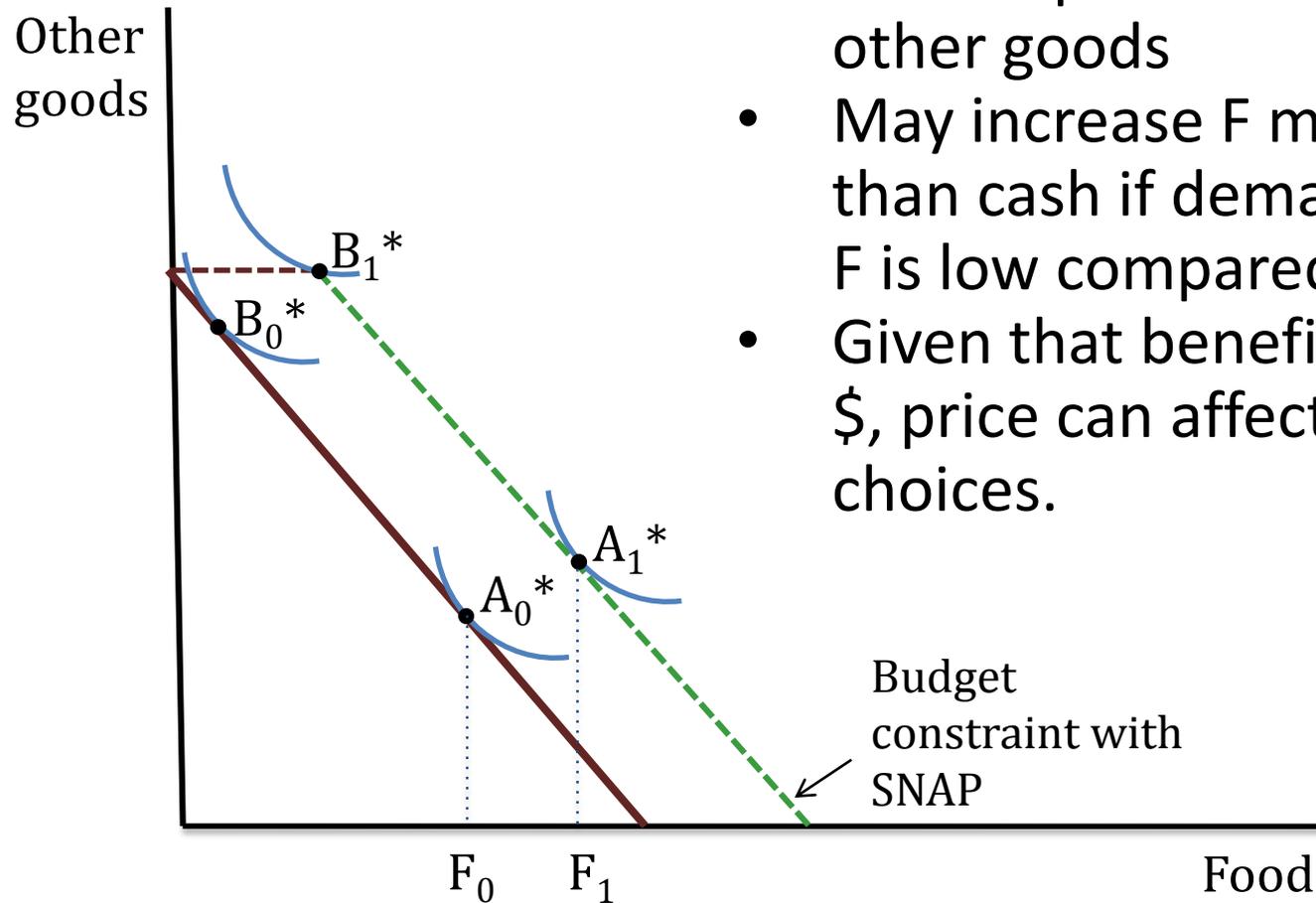


Deriving the budget constraint

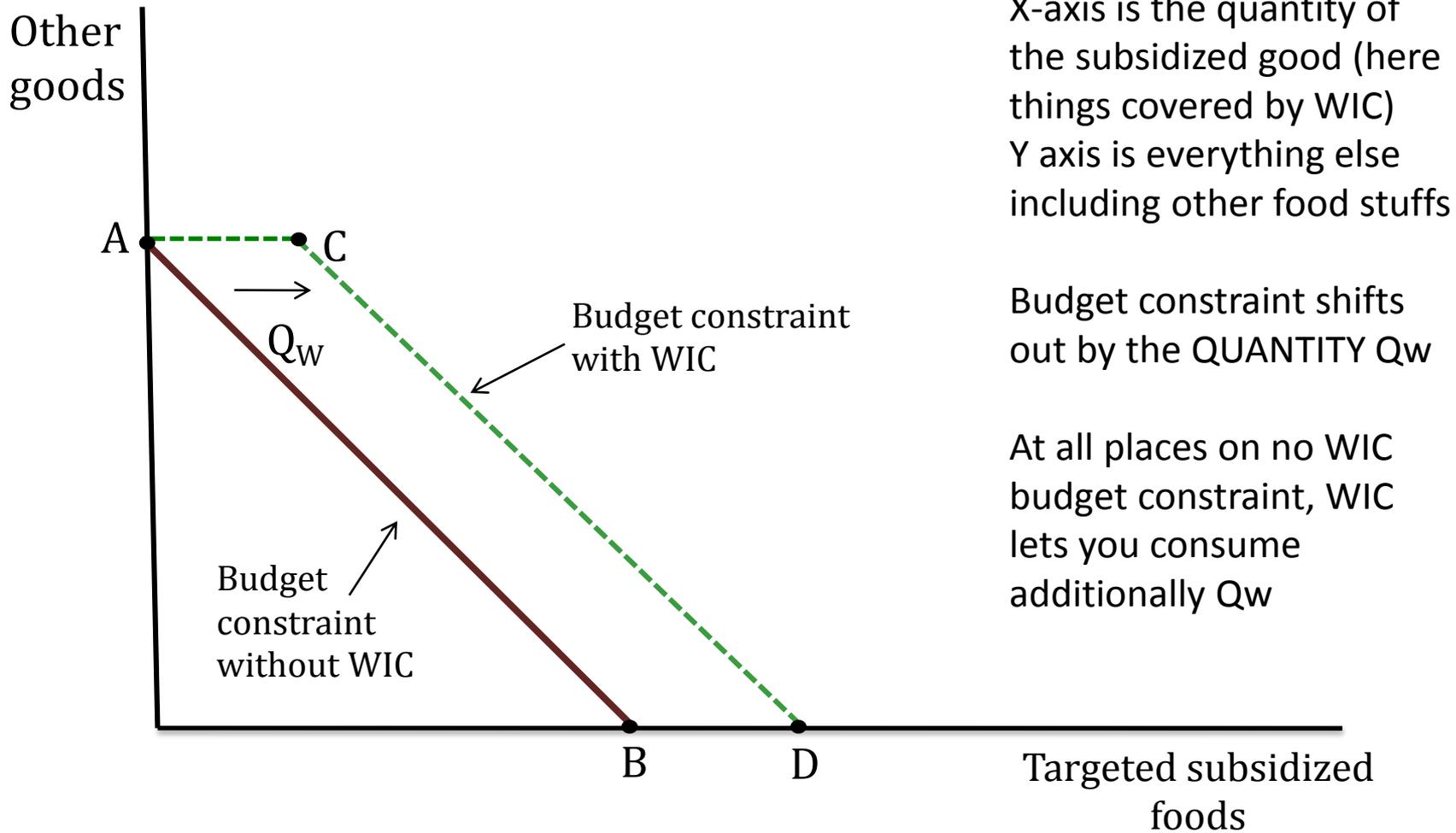
- $P_F F + P_O O = Y$
- Slope of the budget set is the ratio of the prices $\frac{P_O}{P_F}$
- Food stamps represents an increase in Y
- $P_F F + P_O O = Y + B_F$, shifts out F by $\frac{B_F}{P_F}$
- Individuals internalize the price of food that they purchase \rightarrow lower cost food represents larger potential shift out of the budget constraint

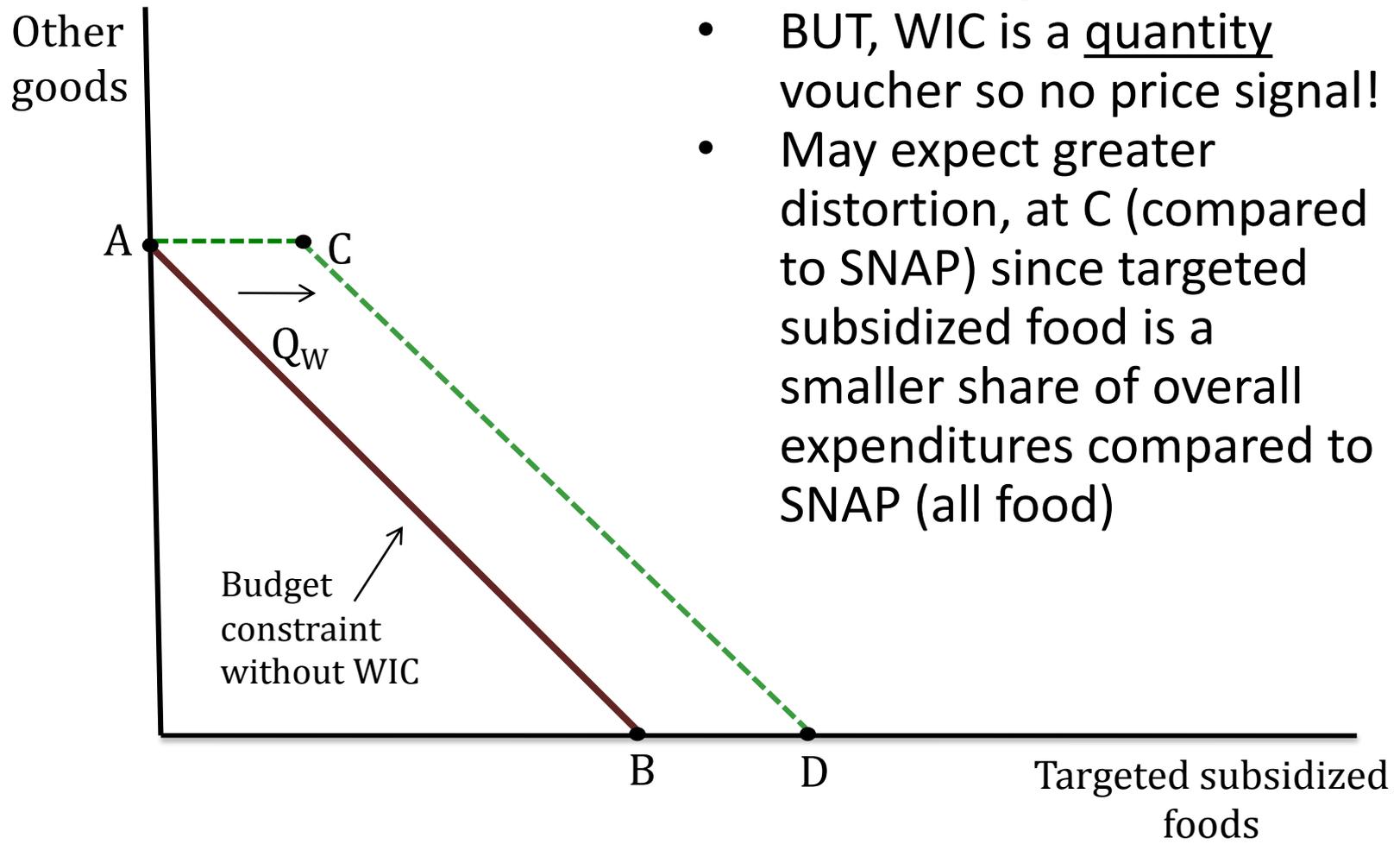
Standard results:

- SNAP increases consumption of F and other goods
- May increase F more than cash if demand for F is low compared to B
- Given that benefit is in \$, price can affect choices.



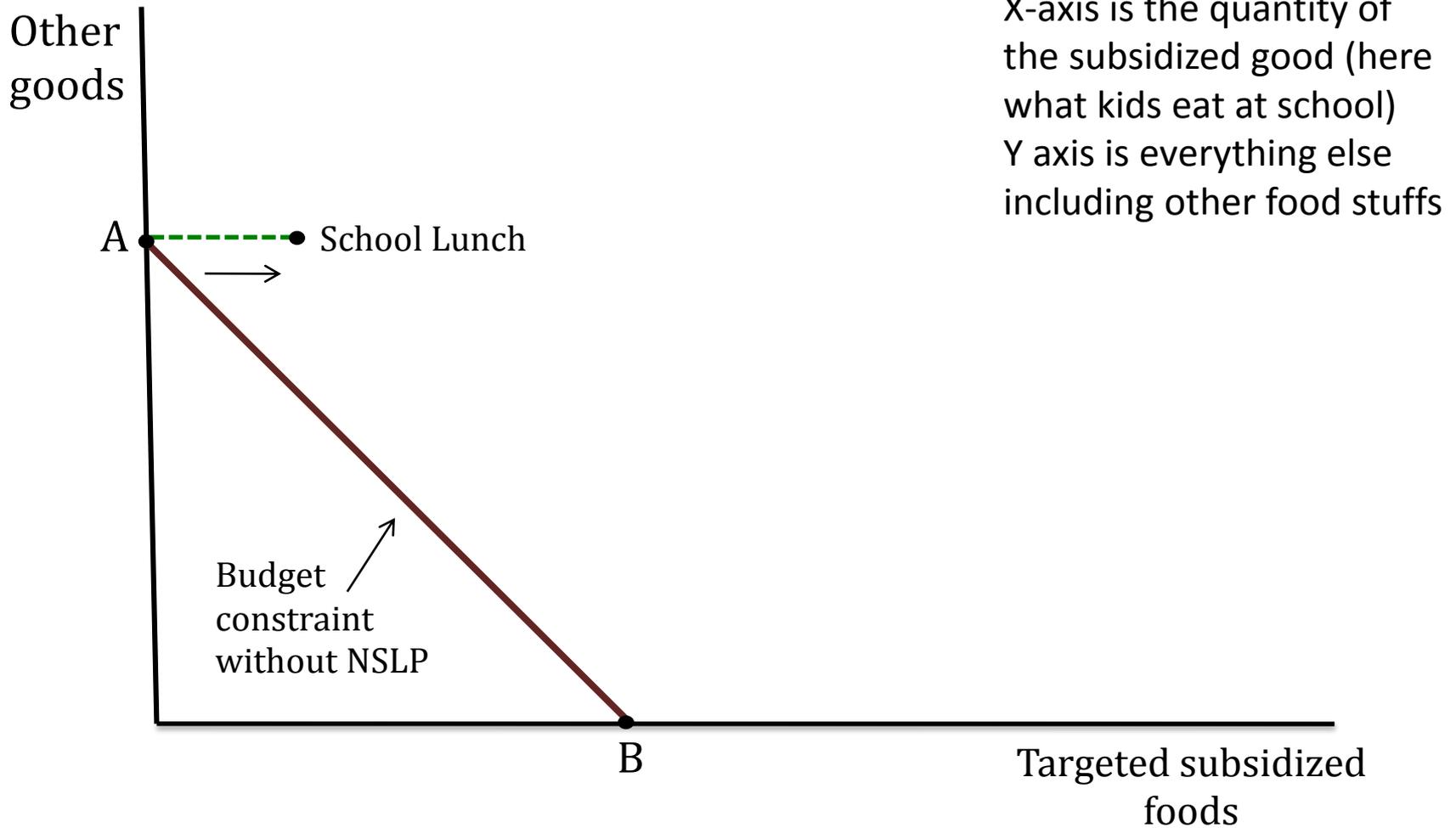
WIC (fixed bundle of Q)

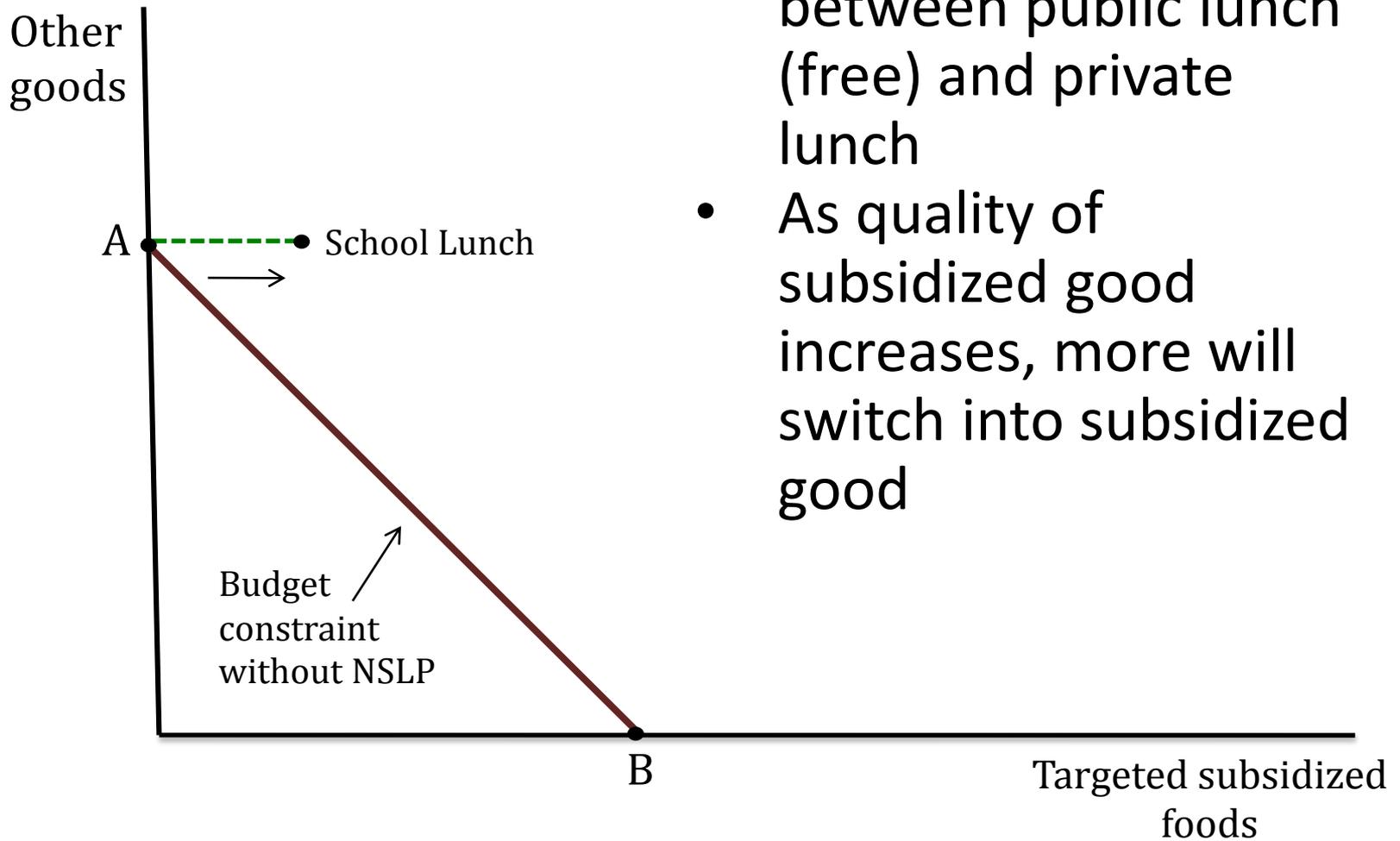




- As with SNAP, WIC should increase subsidized goods and other goods
- BUT, WIC is a quantity voucher so no price signal!
- May expect greater distortion, at C (compared to SNAP) since targeted subsidized food is a smaller share of overall expenditures compared to SNAP (all food)

NSLP and SBP (fixed Q)



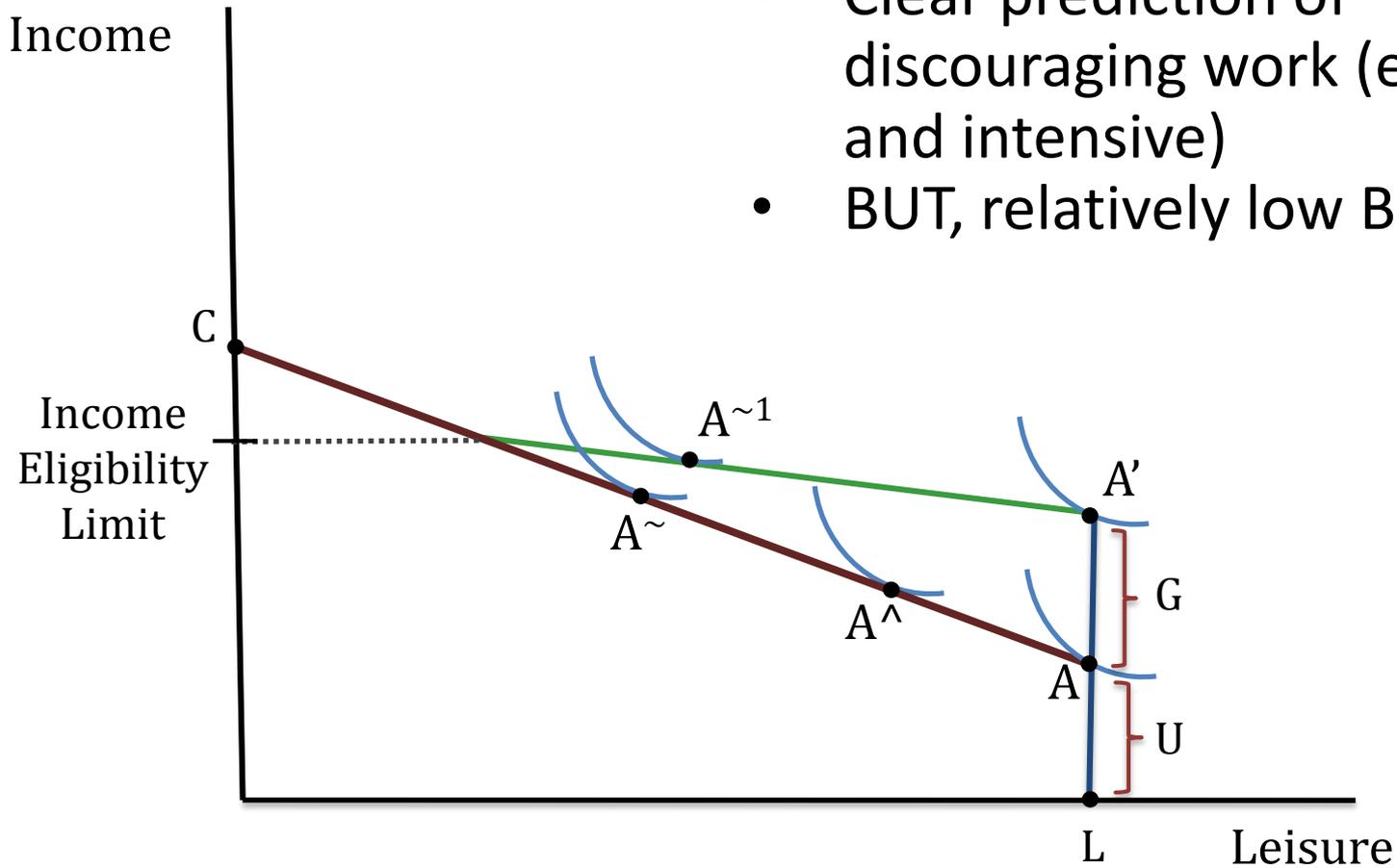


- Benefits are “take it or leave it” -- choice between public lunch (free) and private lunch
- As quality of subsidized good increases, more will switch into subsidized good

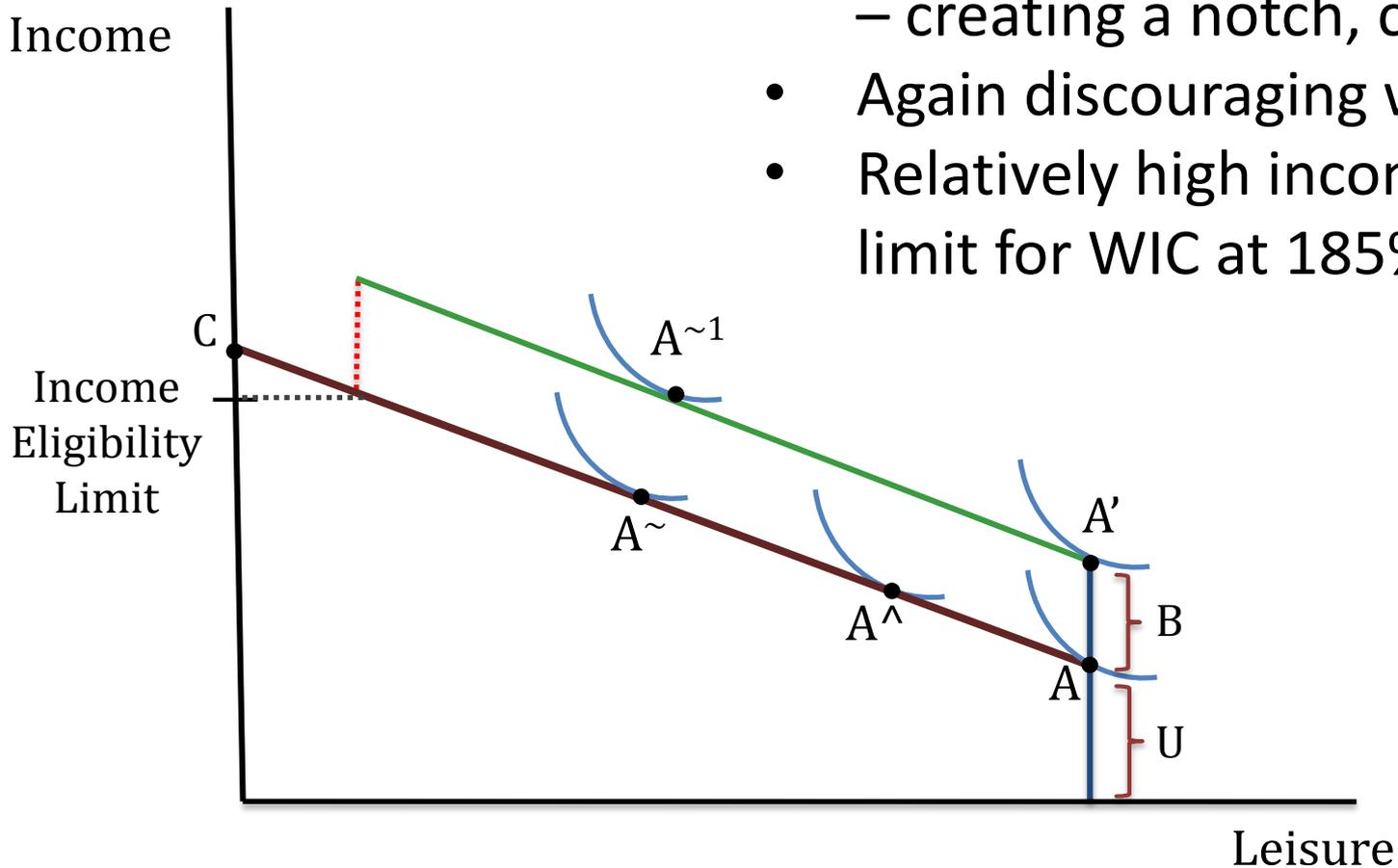
Expected effects on labor supply

- Unearned income transfer -> unambiguously predicted to decrease labor supply

- SNAP is “classic” income support with G and tax rate
- Clear prediction of discouraging work (extensive and intensive)
- BUT, relatively low $BRR = 0.3$



- WIC and School feeding programs are “all or nothing” – creating a notch, cliff
- Again discouraging work
- Relatively high income elig. limit for WIC at 185% FPL



What do we conclude?

- The more unrestricted the transfer (SNAP) the smaller the distortions
- Do policy makers / voters care about distortions?
 - Paternalism
 - Information
 - Whether cash or near cash is preferred depends on what is in the voters / policy makers utility function. Is it the utility of the poor or some objective outcome (e.g. child food security)

Other issues to consider

- Intra-family considerations
 - Who does the shopping may have more control
 - How might offering meals at school affect allocation of food at home
 - There may be spillover effects of the targeted programs (WIC, NSLP, SBP) on nontargeted members of the family
- The firm side
 - As a quantity voucher, WIC recipients are price insensitive. Firms (formula manufacturers, retail shops) have incentive to increase prices.
 - School meal providers maximize profit, takeup

What do we know about effects of food and
nutrition programs

Sidebar – why causal identification is difficult with SNAP and FNPs

- Universal program (no ineligible groups)
- Federal program (little variation across states, localities)
- Little variation over time (few reforms)
- Negative selection: SNAP serves people when they need the program – it is difficult to disentangle the (presumably positive) impact of SNAP from the (presumably negative) impact of the circumstances that made a family eligible for the program.

Challenge to causal identification

- Federal programs with little variation across space or over time (reform)
- Examples of best practices taken in the literature:
 - Program rollout: SNAP, WIC, breakfast
 - Use available policy variation across states/time (reduced form or IV): seen more in the SNAP literature
 - Sibling and family FE: problematic if it is driven by unobserved determinants of participation or if spillovers are large
 - Regression discontinuity: seen more in school meals literature
 - RCTs: Food Stamp “cashout” experiments in 1980s, universal breakfast program

Challenge to causal identification (cont)

- Many studies do not use design based approaches
- Instead they often compare recipients to non-recipients
 - Efforts to make non-recipients comparable:
 - Limit C group to eligible non-recipients
 - Limit C group to those below 150% poverty or 200% poverty
 - Use matching methods
- In the end, this comes down to the nature of selection

Selection

- Challenge is that those who are on SNAP are disadvantaged – with higher levels of food insecurity, adverse health and poor nutrition
- It is very difficult to control for these factors to identify the effect of SNAP separate from the other factors that determine who is ON SNAP.

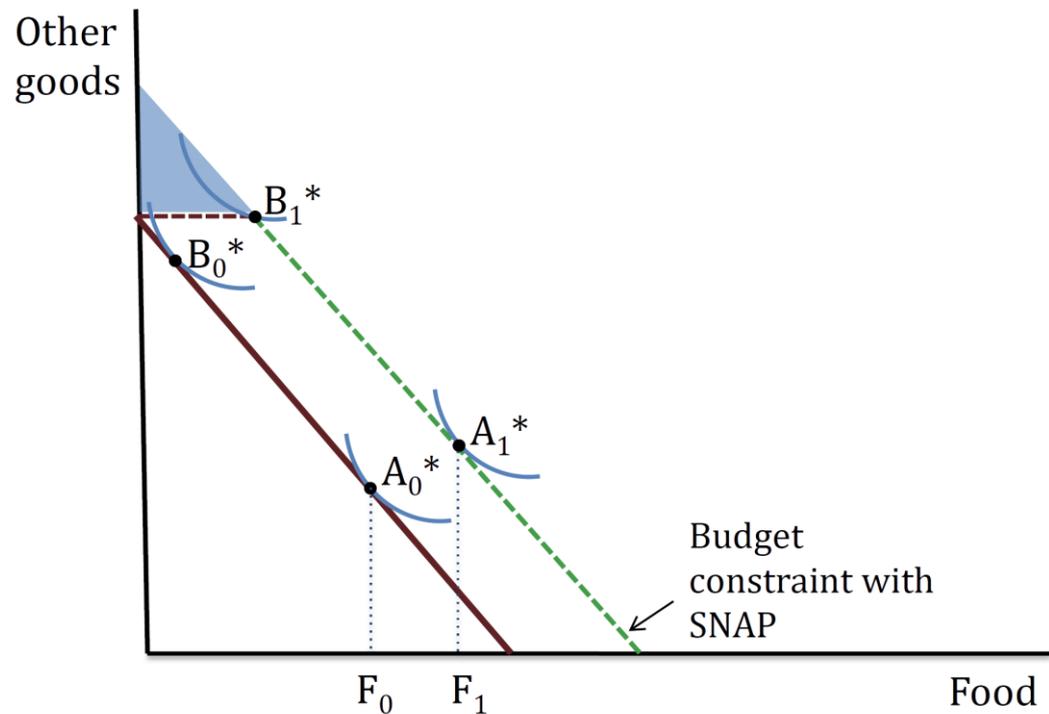
SNAP and Food Insecurity

- Best practices work shows fairly consistent evidence that SNAP reduces food insecurity
- Comparisons of the same family pre- and post-SNAP takeup (Mabli et al 2013, Mabli and Ohls 2015)
- Variation in state implementation policies that generates differences in take-up across states over time (Mykerezi & Mills 2010; Ratcliffe et al. 2011 Shaefer & Gutierrez 2013; Yen et al. 2008)
- Expansions in benefits from federal stimulus (Nord and Prell 2011)
- Documented “food stamp cycle” with declining calories and nutrition over the month (Shapiro 2005, Hastings and Washington 2010) as well as an increase in hospital admissions for hypoglycemia (Seligman et al 2014).

SNAP and food consumption

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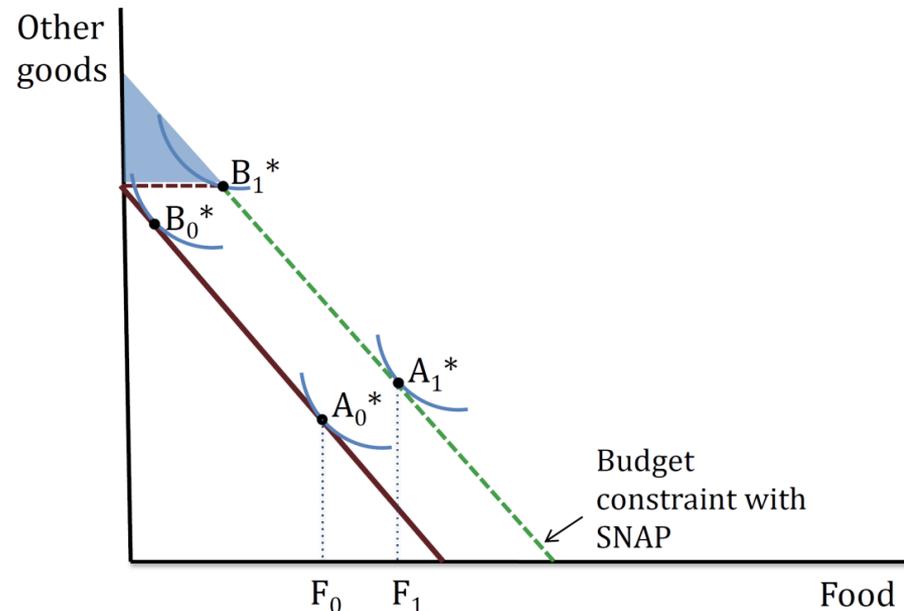
- Food is a normal good. So we expect that SNAP (or an increase in any resources)



SNAP and food consumption

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- Food is a normal good. So we expect that SNAP (or an increase in any resources)
- If SNAP benefits are below amount households choose to spend with unrestricted income, then SNAP leads to similar change increase in food consumption compared to cash. We term this infra-marginal



Evidence on SNAP and food consumption

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- Early work largely based on comparisons of recipients to nonrecipients showed that SNAP lead to much more spending on food than cash (4-10 times as much!)
- The more rigorous studies show consistently that (1) SNAP leads to more food spending, (2) most households are inframarginal, and (3) SNAP leads to increases in food spending that are similar to cash
- Hoynes and Schanzenbach *AEJ Applied* 2009 use the historical rollout of SNAP
- SNAP cash-out experiments also find little difference between SNAP and cash (Schanzenbach 2007)
- Difference-in-difference effects of the ARRA temporary increase in benefits (and then when it was removed) show similar effects of SNAP and cash.

Labor supply

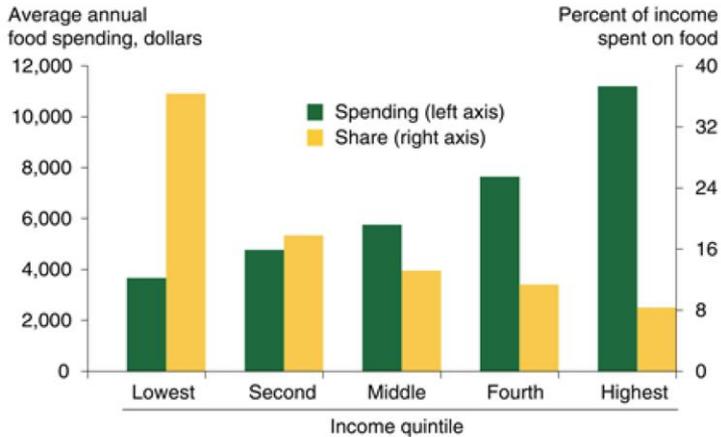
- Means tested programs by definition have to be phased out.
- Balance protection versus distortion
- Phase-out rate is modest compared to cash welfare (30%)
- Hoynes and Schanzenbach JPUBE 2012: Food stamp rollout and contemporaneous effects on labor supply. Find negative, modest effects on female heads extensive margin

Results: SNAP and Health

- It is much less clear how SNAP affects specific food choices, nutrition and health → less best practices work in this area. What we do know from less rigorous work is very mixed and likely biased towards finding a negative effect due to selection

Challenges to affording a healthy diet

Food spending and share of income spent on food across U.S. households, 2013



Source: USDA, Economic Research Service using data from U.S. Bureau of Labor Statistics, Consumer Expenditure Survey, 2013

Exhibit 2. Relation between energy density of foods in the US food energy cost, measured in kcal per dollar (Drewnowski 2010).

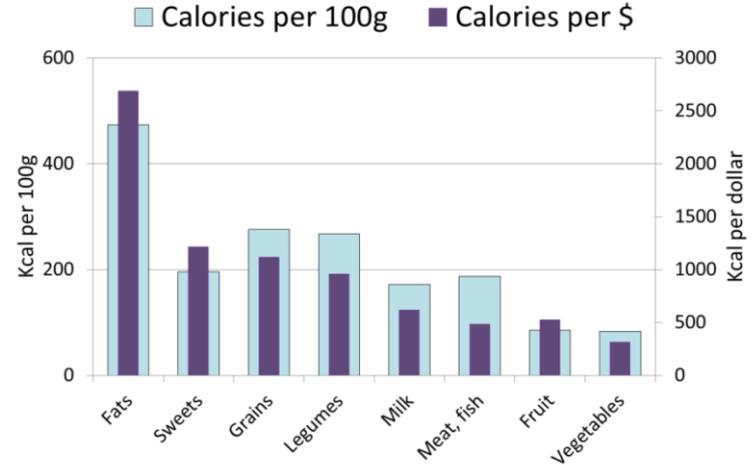
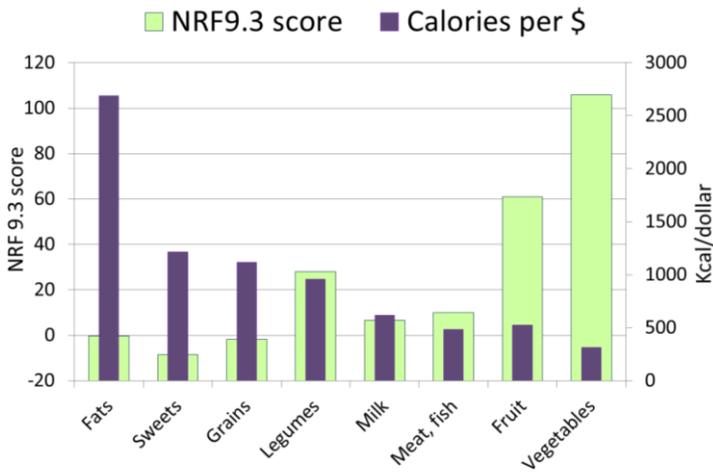
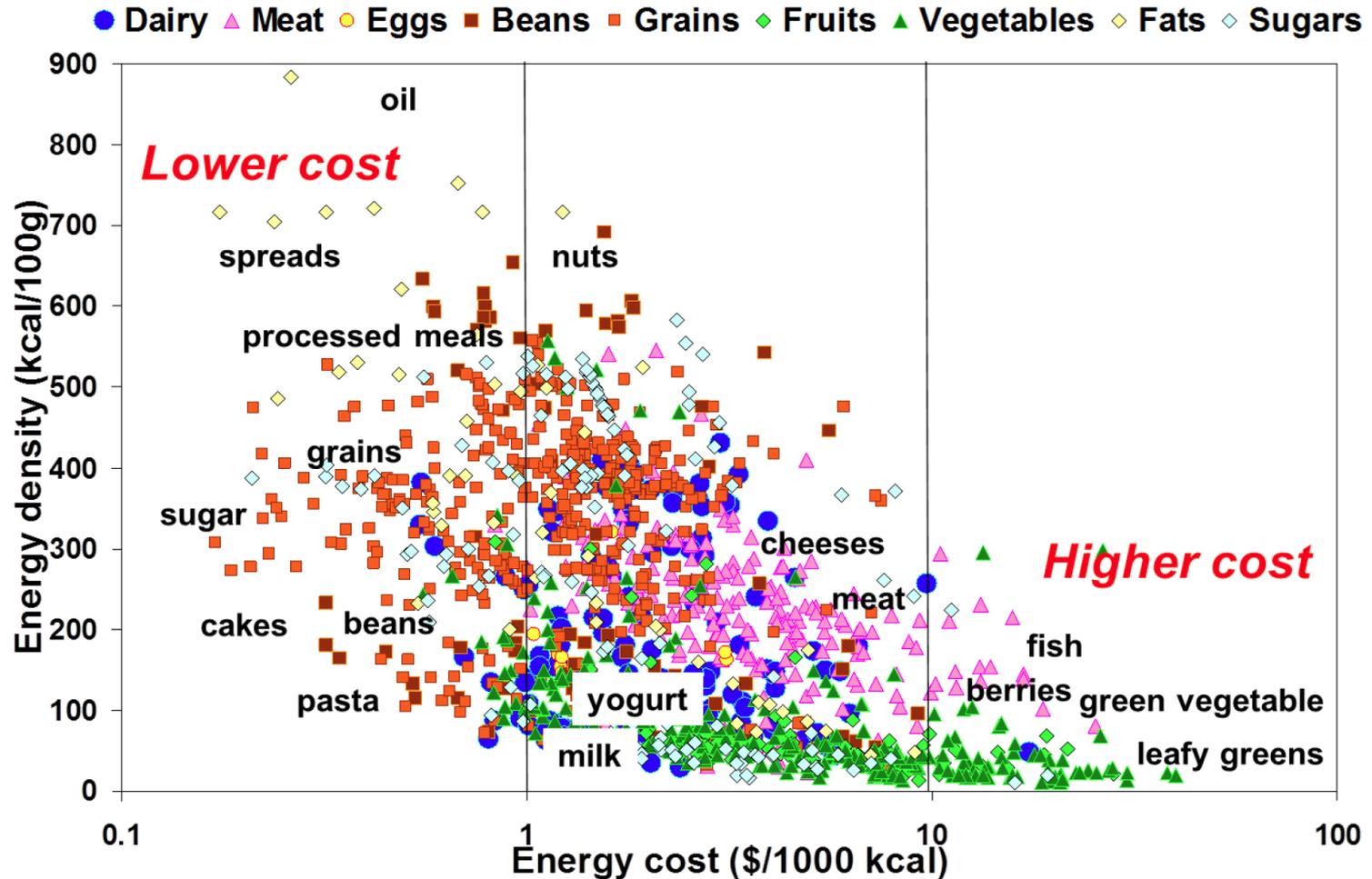


Exhibit 3. Relation between nutrient density of foods in the US food energy cost, measured in kcal per dollar (Drewnowski 2010).



Source: Adam Drewnowski "Can All Americans Afford a Healthy Diet"

Exhibit 4. Refined grains, fats, and sweets cost less; nutrient rich foods cost more. Energy cost measured in dollars per 1,000 kcal.



Results: WIC

- Birth outcomes:
 - ↓ low birth weight (Bitler & Currie 2005; Figlio et al. 2009; Hoynes et al. 2012; Joyce et al. 2005)
 - Some evidence of ↑ average birth weight (Currie & Ranjani 2014; Hoynes et al. 2012; Joyce et al. 2005; Rossin-Slater 2013)
 - Some evidence of ↑ gestation length (Joyce et al. 2005)
- Little evidence for effects on children of WIC

Results: Lunch

- **Dietary quality: ambiguous on number, quality of calories** (Gleason & Suitor 2003)
 - Appears to reduce food insecurity (Nord & Romig 2006)
- **Obesity before HHFKA mixed** (reduces: Gundersen et al. 2012; no impact: Mirtcheva & Powell 2013; increases: Schanzenbach 2009; Millimet et al. 2010)
- **Academic outcomes mixed** (no impact: Dunifon & Kowaleski-Jones 2003; improves: Hinrichs 2010)

Results: Breakfast

- Dietary quality:
 - Improves nutritional quality intake (Bhattacharya et al. 2006; Crepinsek et al. 2006; Frisvold 2012)
 - Substantial crowd out, eating 2 breakfasts (Schanzenbach & Zaki 2014)
- Achievement:
 - May increase achievement (Dotter 2012; Frisvold 2012; Imberman & Kugler 2014) or not (Schanzenbach & Zaki 2014)

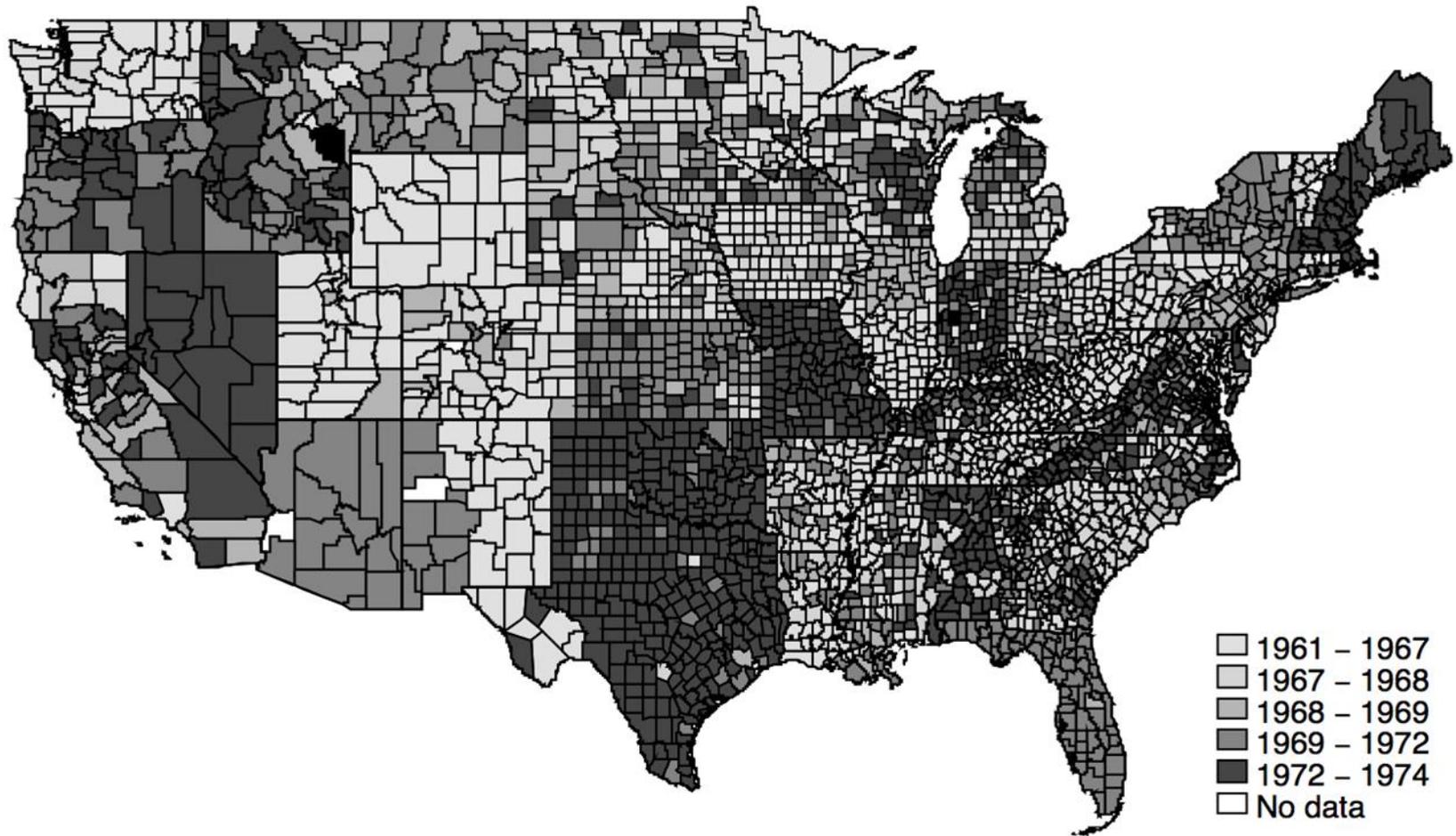
Almond, Hoynes & Schanzenbach
Research on the effects of SNAP using the
program rollout

Leveraging the Historical Rollout of SNAP

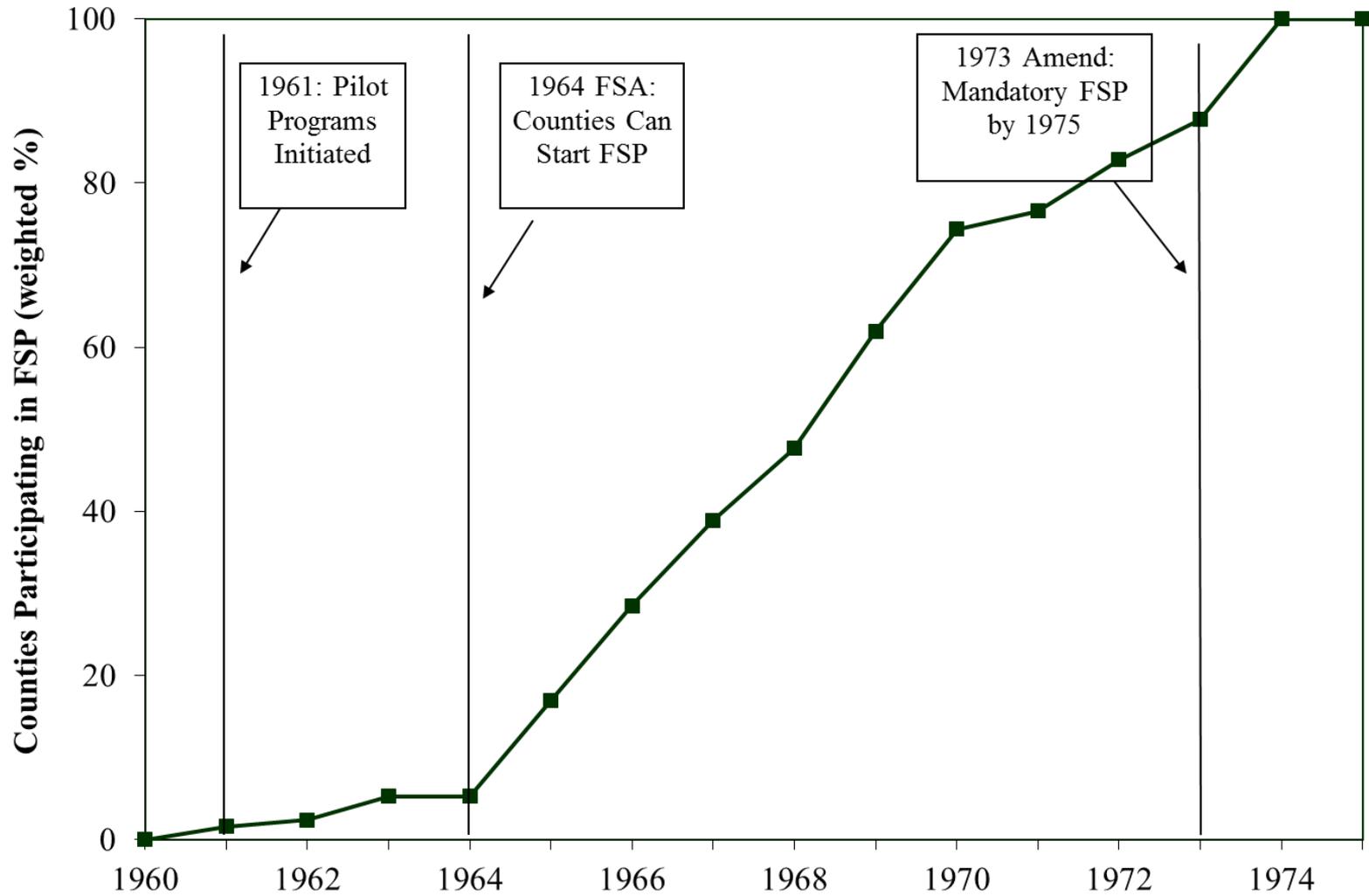
Joint Research with Doug Almond (Columbia) and Diane Schanzenbach (Northwestern)

- Use initial rollout of the Food Stamps, which took place across the approx. 3200 U.S. counties over 1961-1975
- Key markers in this history:
 - 1961: pilot programs launched by Pres. Kennedy
 - 1964: Food Stamp Act, voluntary adoption across counties (subject to funding)
 - 1975: universal coverage following the 1973 amendments
- This allows us to use a quasi-experimental research design; event study model and difference-in-difference
- We leverage variation in the rollout across counties over time while controlling for county, year, and a host of other potentially confounding effects

Leveraging the Historical Rollout of SNAP



Percent of US population covered by FSP



War on Poverty: Other papers using “rollout” design

- Head Start (Ludwig and Miller ⁷¹ 2007)
- Medicare (Finkelstein and McKnight 2008)
- WIC (Hoynes, Page and Stevens 2012)
- Family planning programs (Bailey 2012)
- Civil rights (Almond, Chay and Greenstone)
- Title I (Cascio, Gordon and Reber)
- Community health centers (Bailey and Goodman-Bacon 2012)

Rollout designs are historical, which raises issues about their applicability to current period. However, especially when examining long term effects of the programs, we need to look back in time ...

Food Stamp Rollout and Food Consumption

Hoynes and Schanzenbach (2009)

- We use the Panel Study of Income Dynamics to examine the effect of the Food stamp rollout on food spending at home and away from home. What we observe in the PSID
 - Out of pocket food spending: expect **DECREASE**
 - Total food spending (including value of FS): expect **INCREASE**
 - Spending on meals out: **ambiguous effect** (income effect +, substitution -)
- Difference-in-difference analysis, comparing across counties and over time.

Methodology

- Use variation across counties in difference-in-difference model:

$$y_{ict} = \alpha + \delta FSP_{ct} + X_{it}\beta + \gamma_1 Z_{c60} * t + \gamma_2 TP_{ct} + \eta_c + \delta_t + \lambda_s * t + \varepsilon_{ict}$$

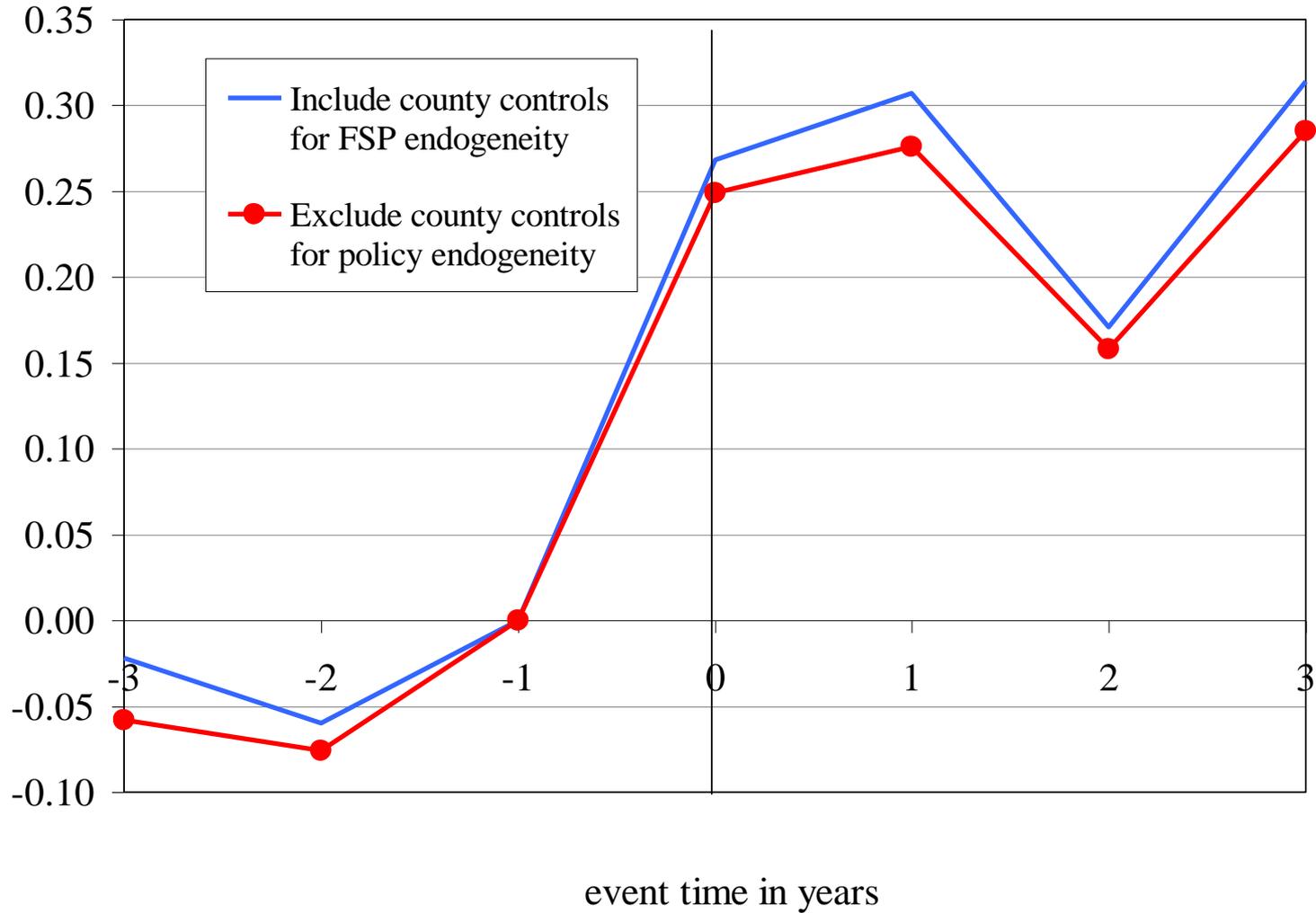
- Observations are families i living in county c in time period t
- Identification comes from variation across counties over time in adoption of FSP (FSP_{ct} a 0/1 variable)
- Fixed effects for, county, time and state*linear year (or state*year)
- We control for possible confounders:
 - 1960 county characteristics interacted with linear time (Z_{c60})
 - Per capita annual county expenditures on other government transfer programs (TP_{ct})
- All regressions are weighted using the PSID family weight; standard errors clustered on county

Table 3: Impact of FSP on Consumption in Diff-Diff model

	All nonelderly households (1)	Nonelderly, Head Educ<=12 (2)	Female Heads (3)
<u>A. Any Food Stamps (0/1)</u>			
County FSP Implemented	0.035 (0.007)***	0.050 (0.009)***	0.194 (0.040)***
<u>B. Log of Cash (non food stamp) Food Expenditures at Home</u>			
County FSP Implemented	-0.006 (0.016) <i>-0.081</i>	-0.008 (0.019) <i>-0.078</i>	0.042 (0.055) <i>0.116</i>
<u>C. Any Meals Out (0/1)</u>			
County FSP Implemented	-0.005 (0.015) <i>-0.068</i>	-0.003 (0.019) <i>-0.029</i>	-0.055 (0.048) <i>-0.152</i>
<u>D. Log of Total (including food stamp) Food Expenditures</u>			
County FSP Implemented	0.007 (0.013) <i>0.095</i>	0.016 (0.016) <i>0.157</i>	0.102 (0.042)** <i>0.282</i>
Demographics	X	X	X
1960 Cty Vars * Linear Time	X	X	X
Year and County Fixed Effects	X	X	X
Per Capita Cty Transfers	X	X	X
State x Linear Time	X	X	X
Number of Observations	39,623	30,905	6,002

Numbers in italics divide the treatment effect by the average FSP participation rate. This converts to impacts of treatment on treated.

Figure 7b: Event Study Estimates of Impact of FSP on Total Food Expenditures, Balanced Panel



Food Stamp Rollout and Infant Health

Almond, Hoynes and Schanzenbach (2011)

- Use initial rollout of the Food Stamps to estimate the effects of the food stamps on infant health
 - Incidence of low birth weight, average birthweight, infant mortality
- Mother is “treated” during pregnancy with varying access to food stamps depending on county and month-year of birth
- Why infant health? Health at birth is an important predictor of later life economic and health outcomes

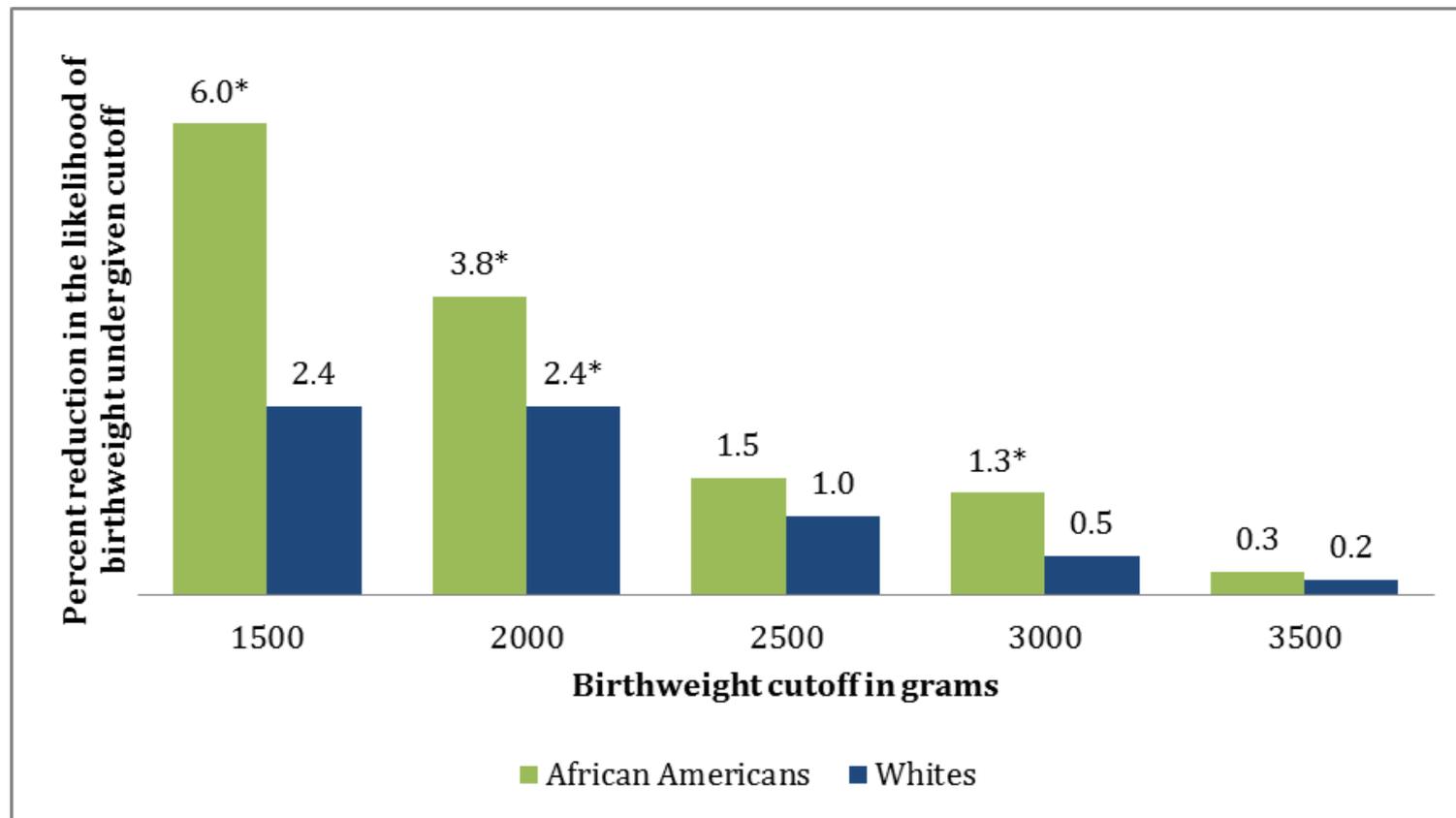
Food Stamp Rollout and Infant Health

Almond, Hoynes and Schanzenbach (2011)

- We find that access to food stamps improves infant health, reducing low birth weight and statistically insignificant effects on infant mortality (though signs show improvement)
- Magnitude: \$1000 (2009\$) in additional food stamp income (treatment-on-the-treated) reduces incidence of low birth weight 4% for whites and 2% for blacks
- Effects concentrated at the bottom of the birth weight distribution and in high poverty counties
- Vital statistics data on full census of births
- Event study model (difference-in-difference)

Impact of In Utero exposure to Food Stamps: Reduction in likelihood of birth weight below selected cutoffs

Percent Impacts (Coefficient / Mean)



Source; Almond, Hoynes and Schanzenbach, *Review of Economics and Statistics* 2011.

How do the magnitudes compare to other safety net programs?

- Percent impacts on low birth weight, treatment-on-the-treated per \$1000 in 2009\$:
- Food stamps: 4% for whites, 2% for blacks [*Almond, Hoynes and Schanzenbach RESTAT 2011*]
- EITC: 2%-3% for single low education women [*Hoynes, Miller and Simon 2012*]
- WIC: 10-20% [*Hoynes, Page and Stevens JPUBE 2011, and others*]

Current Policy Discussions - SNAP

- Block granting SNAP
- Restricting food purchased in SNAP to “healthy foods” [Katie]
- Should SNAP do more to promote work? [Sasha]
- Should SNAP do more to incentivize healthy eating? [Mass. HIP]
- Adjusting the benefit level
- Summer EBT for Children (adding \$\$ to EBT card in summer to make up for lost school meals), recent RCT

Block Granting SNAP

- Would lose automatic stabilizing role
- Would limit its role in reducing poverty and deep poverty
- Part of the reason SNAP expenditures are high is the lack of wage growth and the need for government benefits to make workers whole

SNAP and incentivizing healthy eating

- Or, ways to reduce the cost of healthy foods
- Double up bucks programs
- Massachusetts Healthy Incentive Pilot
 - RCT in one MA county
 - Treatment: 30% incentive for purchasing targeted fruits and vegetables (capped at \$60 per household/month)
 - Results: Led to 26% increase in consumption of targeted foods (0.24 cups...)
- 2014 Farm Bill authorized FINI grants (food insecurity nutrition incentive) for more evaluation of these incentives

Adjusting the benefit level

- Adjust for time needed to prepare foods (part of thrifty food plan costing out)
- Account for geographic variation in the price of food

Disability Income Programs

PP290

Hilary Hoynes

Outline of lecture

1. Overview of programs, rules, data
2. Economic issues and research findings
3. Deeper dive into Deshpande on SSI, with detour on regression discontinuity models
4. SSDI policy frontier: Autor and Duggan THP

1. Overview of programs and rules, basic data on programs

Social Security Disability Income (SSDI or DI)	Supplemental Security Income (SSI)
1956	1973
\$130.6B (2012) (plus \$70+B for Medicare)	\$54B (2013) (plus \$133B for Medicaid)
Social insurance, eligible workers through Social Security	Means tested program Low income elderly, disabled, including children
10.1 M individuals/month (2012)	8.4 M individuals/month (2013)
Cash income Also qualify for Medicare	Cash income Also quality for Medicaid
Individual benefits	Household
Federal program	Federal program, with state add-ons

Social Security Disability Income (SSDI or DI)	Supplemental Security Income (SSI)
Financed by payroll tax (1.8% of earnings up to SS cap)	Financed by general funds
Benefits depend on work history (need 10 years) and earnings, higher replacement rate for lower earnings (indexed as social security is; convert to retirement benefits at 65) Ave benefit \$1100 (2012)	Max benefits = \$710 (2013) (indexed)

SSDI benefits (same as social security)

- Calculate AIME, average indexed monthly earnings
 - Inflates each year of earnings by the average wage in the economy from year earned up to current year T (actually T-2).
- Calculate PIA: Same formula as for social security; progressive function of wage. [“bend points” in formula also adjusted for changes in average wage growth]
- Worker receives PIA, adjusted for changes in cost of living each year using CPI.
- Work requirement (Same as SS): have to work 20 quarters in the last 40 quarters.

$$PIA = \begin{cases} 0.9 * AIME & \text{if } AIME \in [0, b_1] \\ 0.9 * b_1 + 0.32 * (AIME - b_1) & \text{if } AIME \in [b_1, b_2], \\ 0.9 * b_1 + 0.32 * (b_2 - b_1) + 0.15 * (AIME - b_2) & \text{if } AIME > b_2 \end{cases}$$

- → High replacement rate (0.90) for workers with low earnings (monthly earnings <\$750-\$800)

SSI benefits (like canonical welfare, G & t)

- Eligibility depends on income test, asset test and categorical eligibility (being aged or disabled)
- SSI children: income and assets of the parents are used for eligibility. Once a child turns 18, own income and assets are used
- $B = G - (UN - \$20) - 0.50 (E - \$65)$
- Unearned income taxed at 100% after \$20, earned income taxed at 50% after \$65; G is \$721 (higher than TANF)
- Annual break-even point for earned income about \$18,000
- Asset limit is \$2,000 for an individual and \$3,000 for a couple and excludes the value of a home and one vehicle.

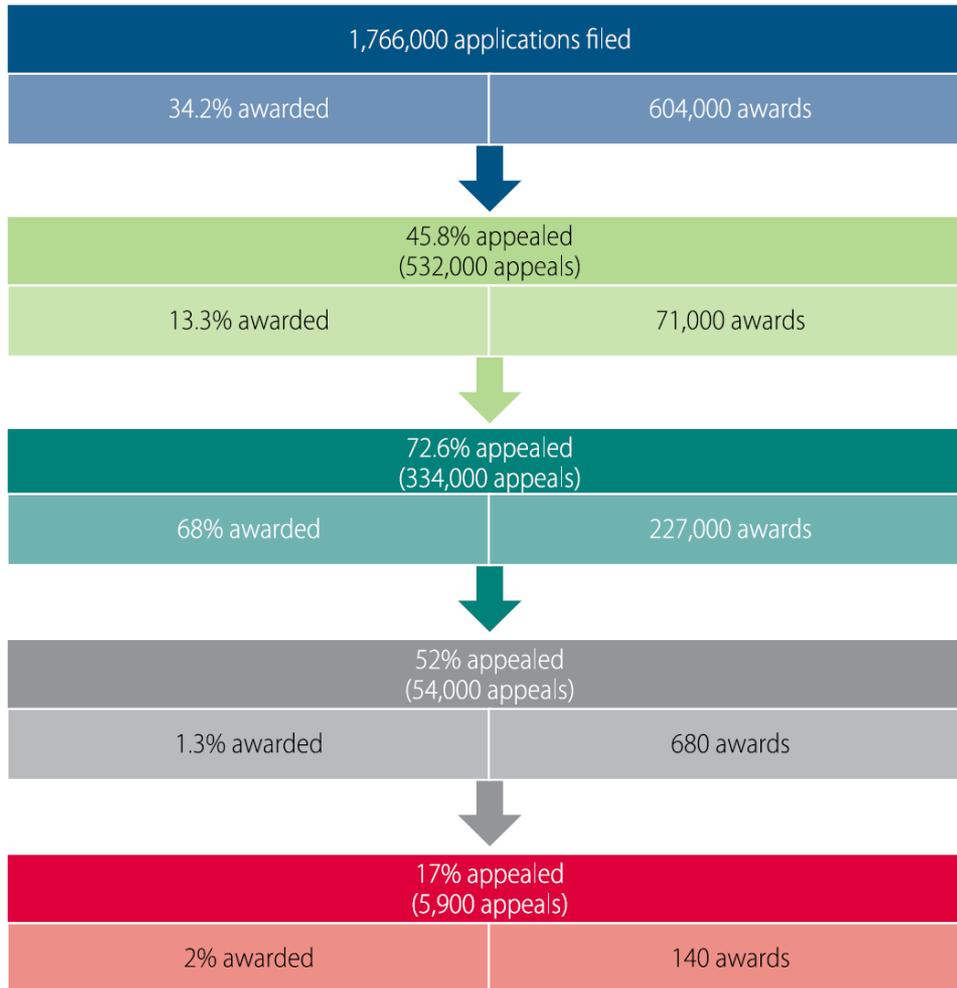
Demonstrated Disability

- Medical eligibility criteria same for SSDI and SSI (except child SSI, see more on this below)
- Medically determined physical or mental disability that limits the ability to engage in “substantial gainful activity” (SGA) and further demonstrate that this disability will last at least 12 months or result in death
- In practice substantial variation in award rates, across offices and Administrative Law Judges (part of the process is judicial review).
- Appeals are possible, and common

FIGURE 8B

SSDI benefit allowance and appeals process, 2005

A. Applications, appeals, and awards by determination stage



B. Final disposition of applications by determination stage

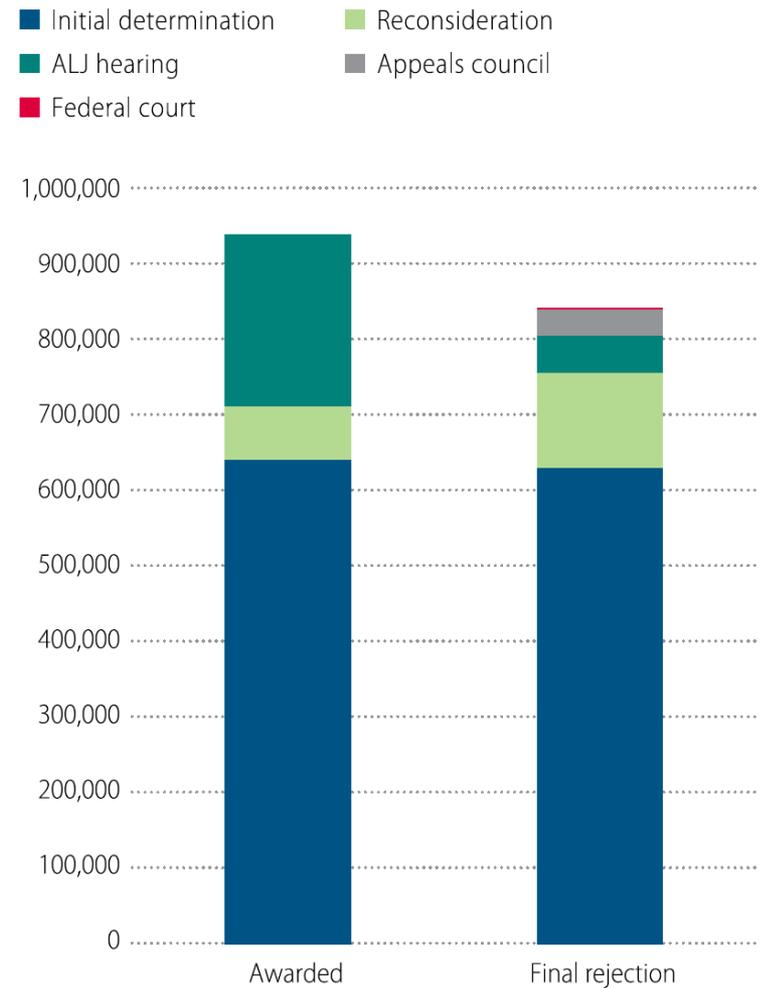
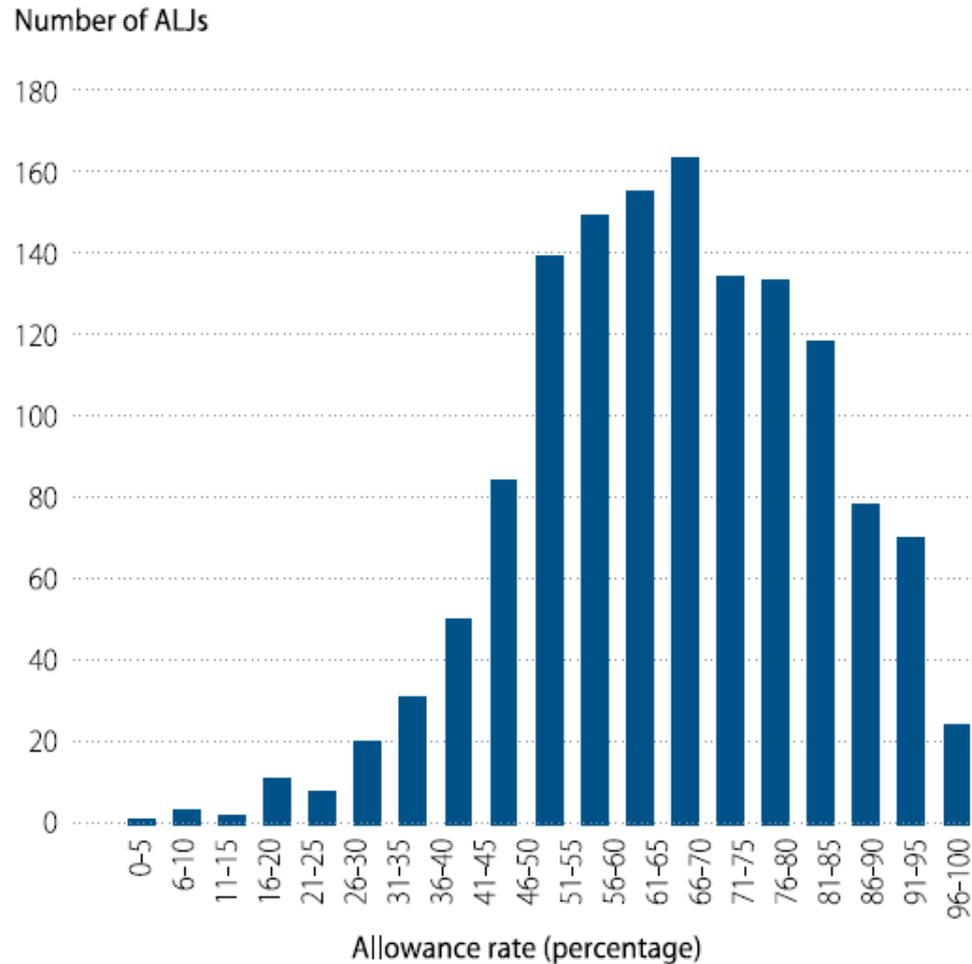


FIGURE 9

Distribution of ALJ allowance rates, FY 2010, 100 decision minimum



Source: SSA

In practice substantial variation in award rates, across offices and Administrative Law Judges
Even though they are randomly assigned within office
→ Used in research to create T and C

SSI Children

- Changes over time, rise of child caseload. Result of 1990 *Zebley decision* that expanded the medical eligibility criteria
- Zebley: Statutorily discriminated against children since child applicants did not have the option of demonstrating a disability using a vocational assessment, as could adults
- Overlap with TANF (transitions from AFDC/TANF to SSI with welfare reform). State incentives to move onto SSI since SSI is federal
- 1996 Welfare reform included change in SSI children disability determination: “a medically determined physical or mental impairment which results in marked and severe functional limitations, which can be expected to lead to death or which has been or can be expected to last for a continuous period of not less than 12 months”

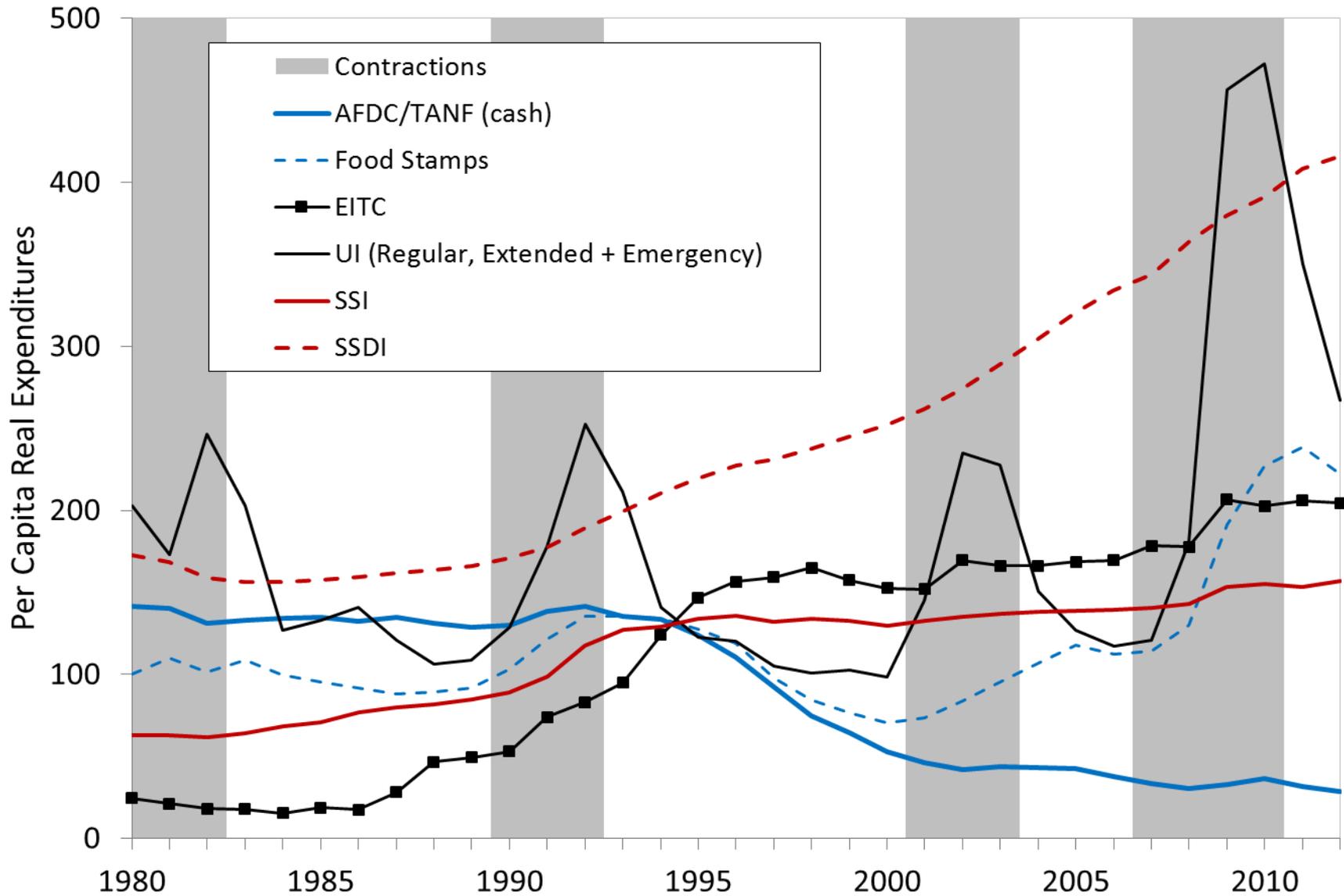
De facto welfare for low skilled workers

- Permanent benefits: (aside from children) receive income until age 65 or death
- No program elements to support ongoing employment and economic self-sufficiency for workers with disabilities; nothing to improve or accommodate the disability
- Basic tradeoff between low wage work (and harder to find jobs) and benefits

“Disability Industrial Complex” (This American Life)

- Role of attorneys, massive advertising
- KEY: Payments are only on receipt of claim (so no money necessary to be paid by client). Paid by SSA directly
- There is NO attorney representing the government
- Consulting firms work for state welfare offices to identify and aid people in getting from TANF to SSI

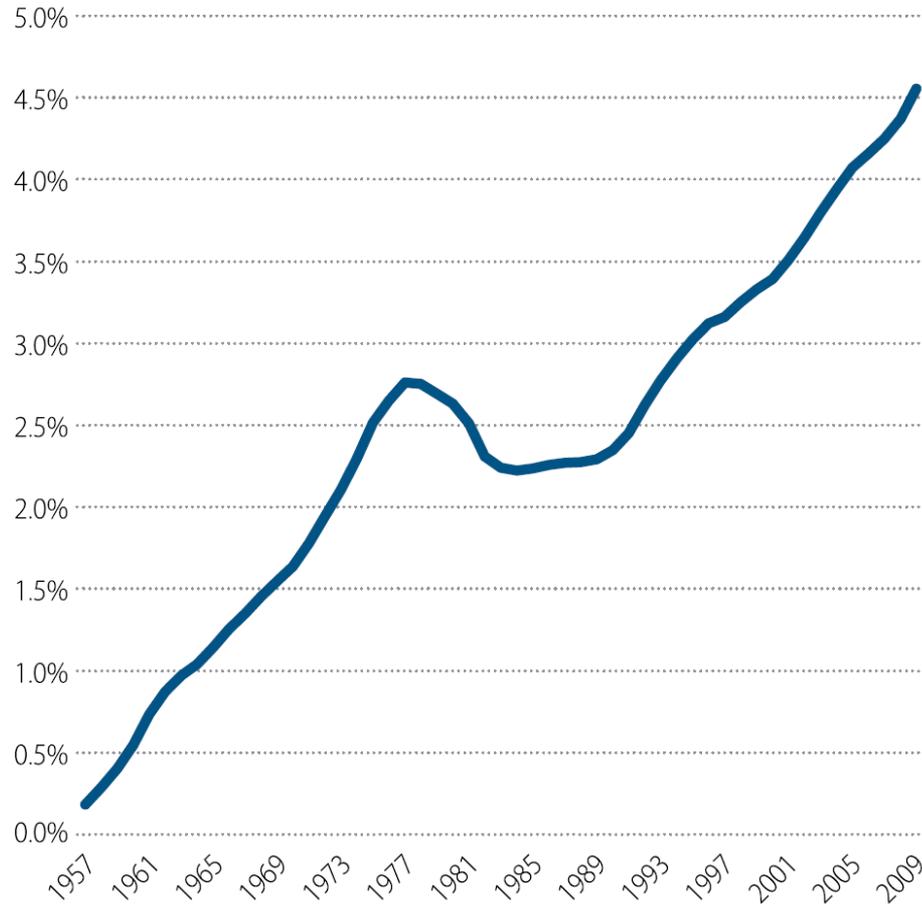
Per Capita Expenditures on the Social Safety Net (2012 dollars)



More data on SSDI

FIGURE 1

Percentage of individuals receiving SSDI disabled worker benefits, ages 25-64, 1957-2009



Source: Social Security Administration (SSA), Table 5d3, available at <http://www.ssa.gov/policy/docs/statcomps/supplement/2010/5d.html>; Bureau of the Census, Census Population Estimates, available at <http://www.census.gov/popest/estimates.html>

Main policies affecting this trend:

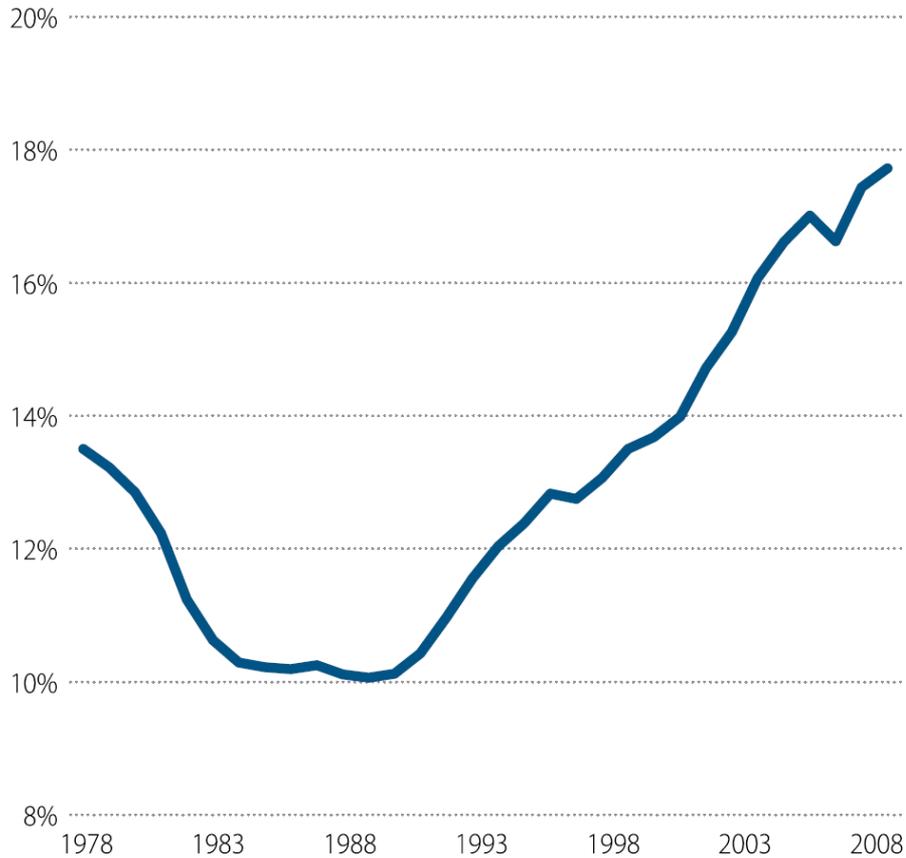
1970s: tightened medical eligibility

1980: further tightening
[Public backlash during 1980s recession]

1984: reversing and liberalizing 1980 changes

FIGURE 3

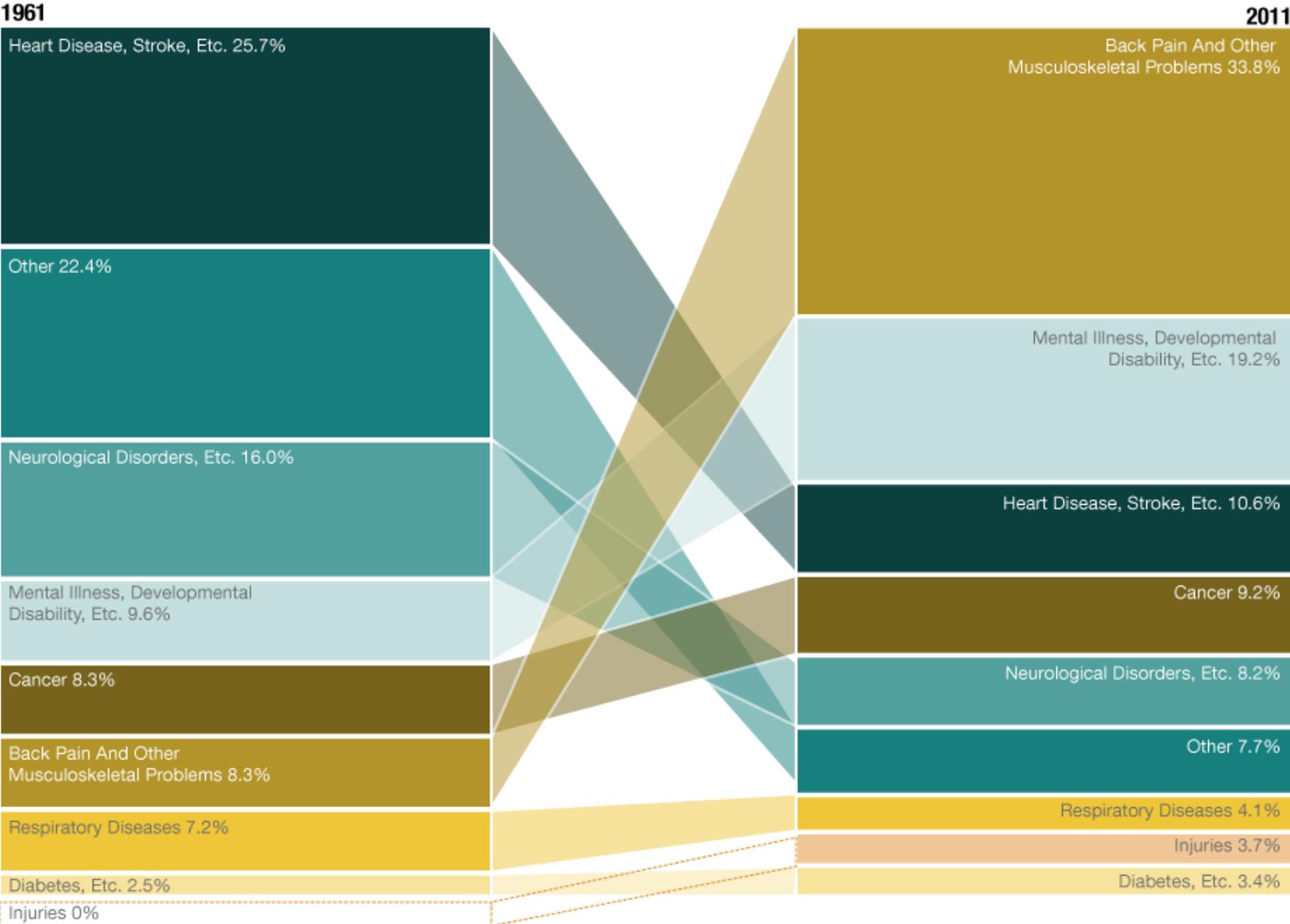
SSDI expenditures as a share of total OASDI expenditures, 1979-2009



SSDI growing as share of overall payments in OASDI:
OA = old age
S = survivors
D = disability
I = insurance

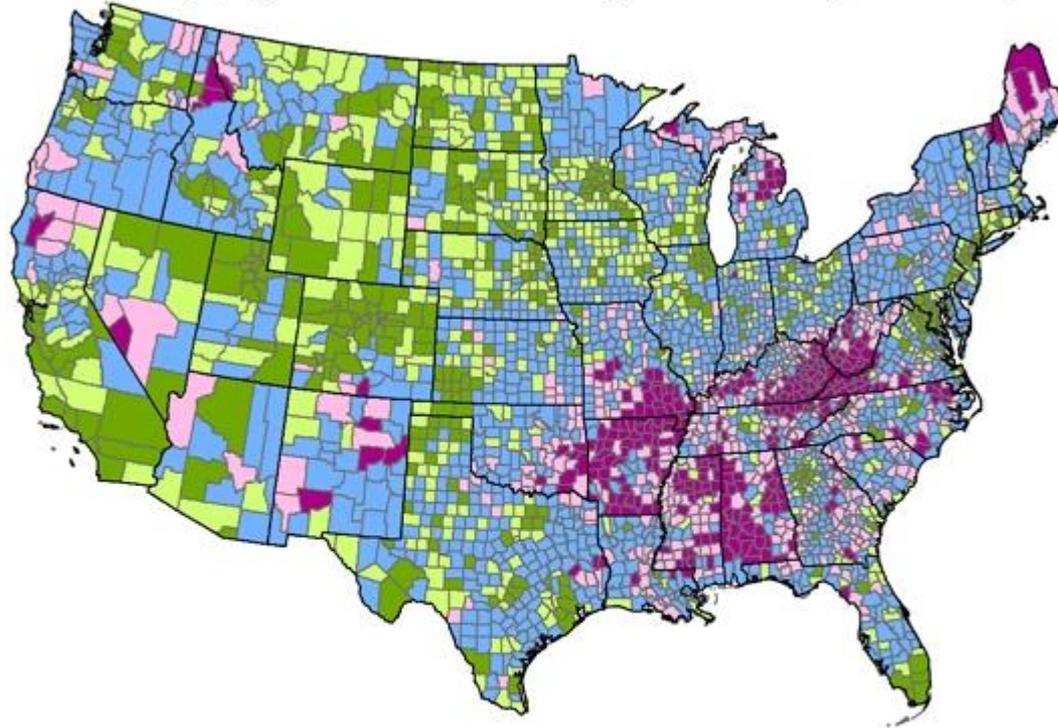
Source: SSA, Office of the Actuary, available at <http://www.ssa.gov/OACT/ProgData/funds.html>

Share Of Newly Disabled Workers, By Diagnosis



Americans Receiving Disability

The percentage of people 15-64 receiving Social Security disability payments varies widely from county to county



In U.S., 4.6% of those 15 to 64 qualify for Social Security disability payments

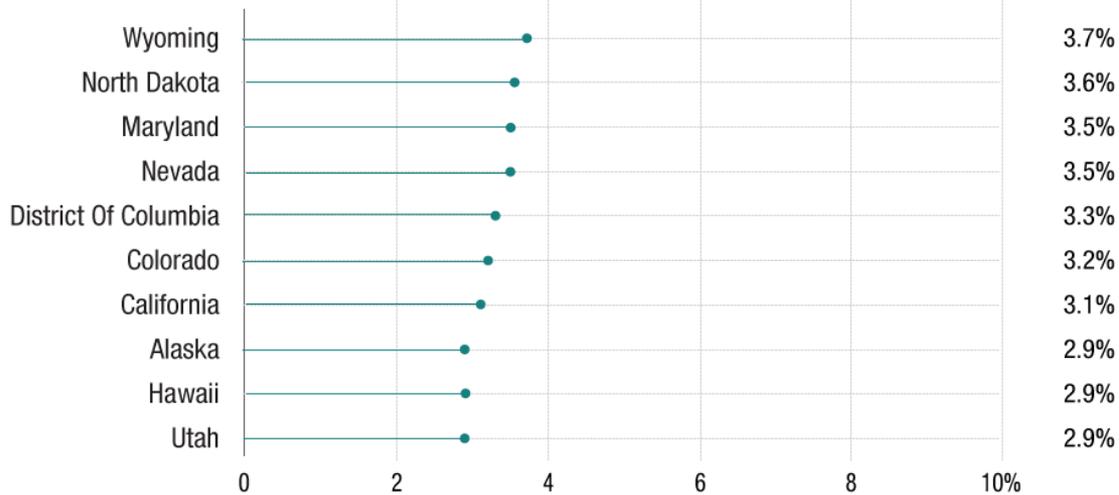


Percentage Of Population Age 18-64 On Workers' Disability (2011)

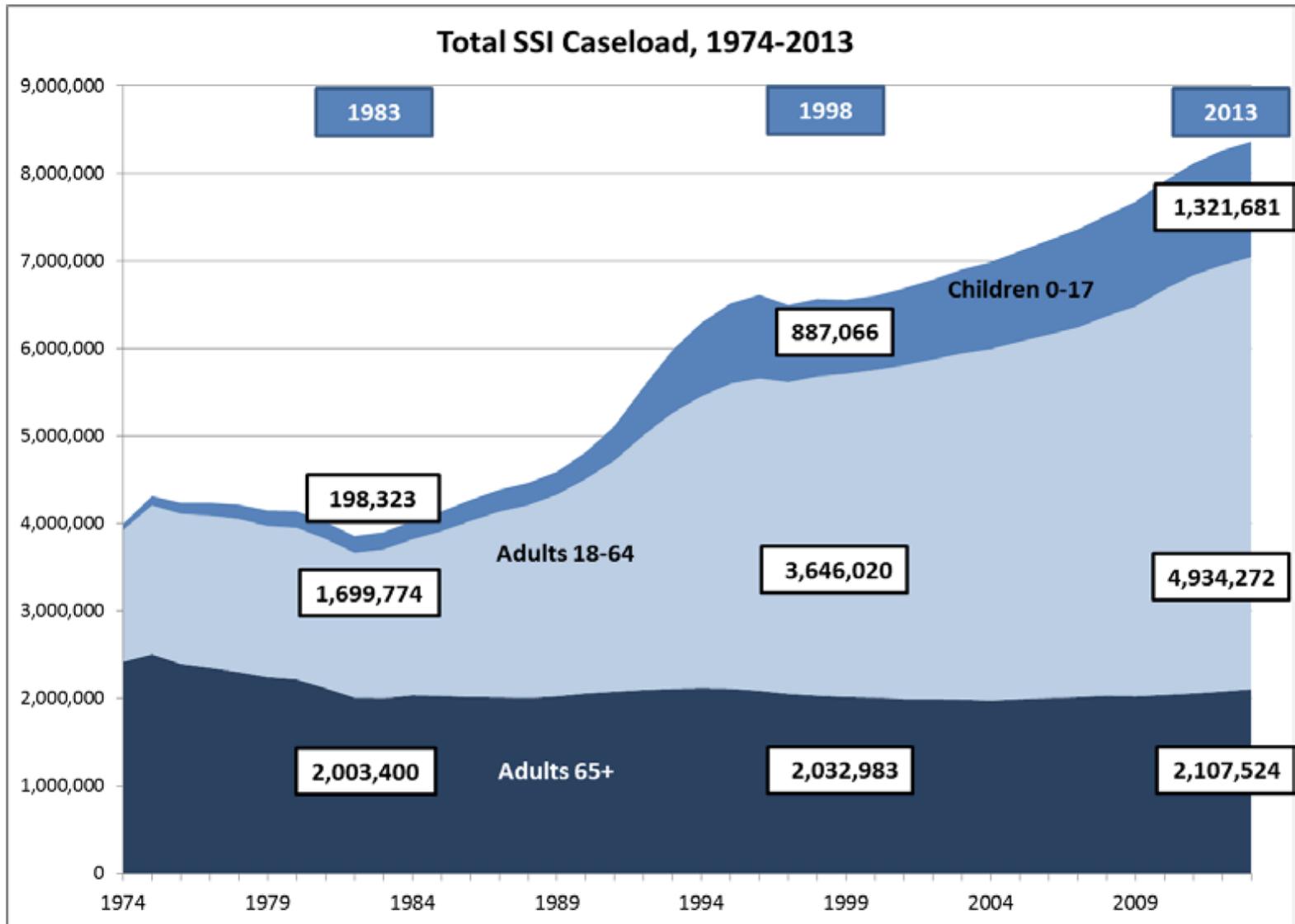
States Where The Percentage Is The Highest



States Where The Percentage Is The Lowest

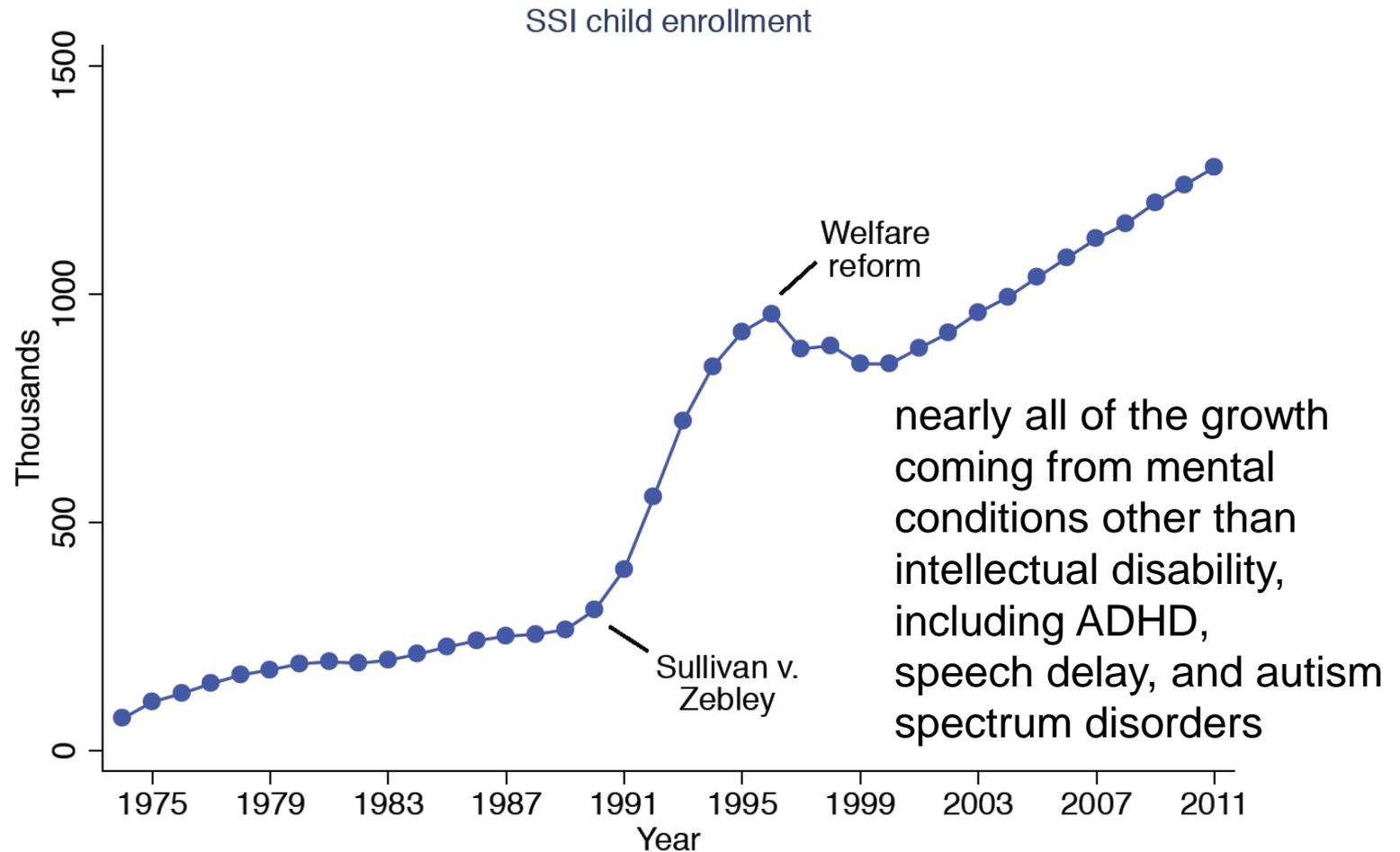


More data on SSI

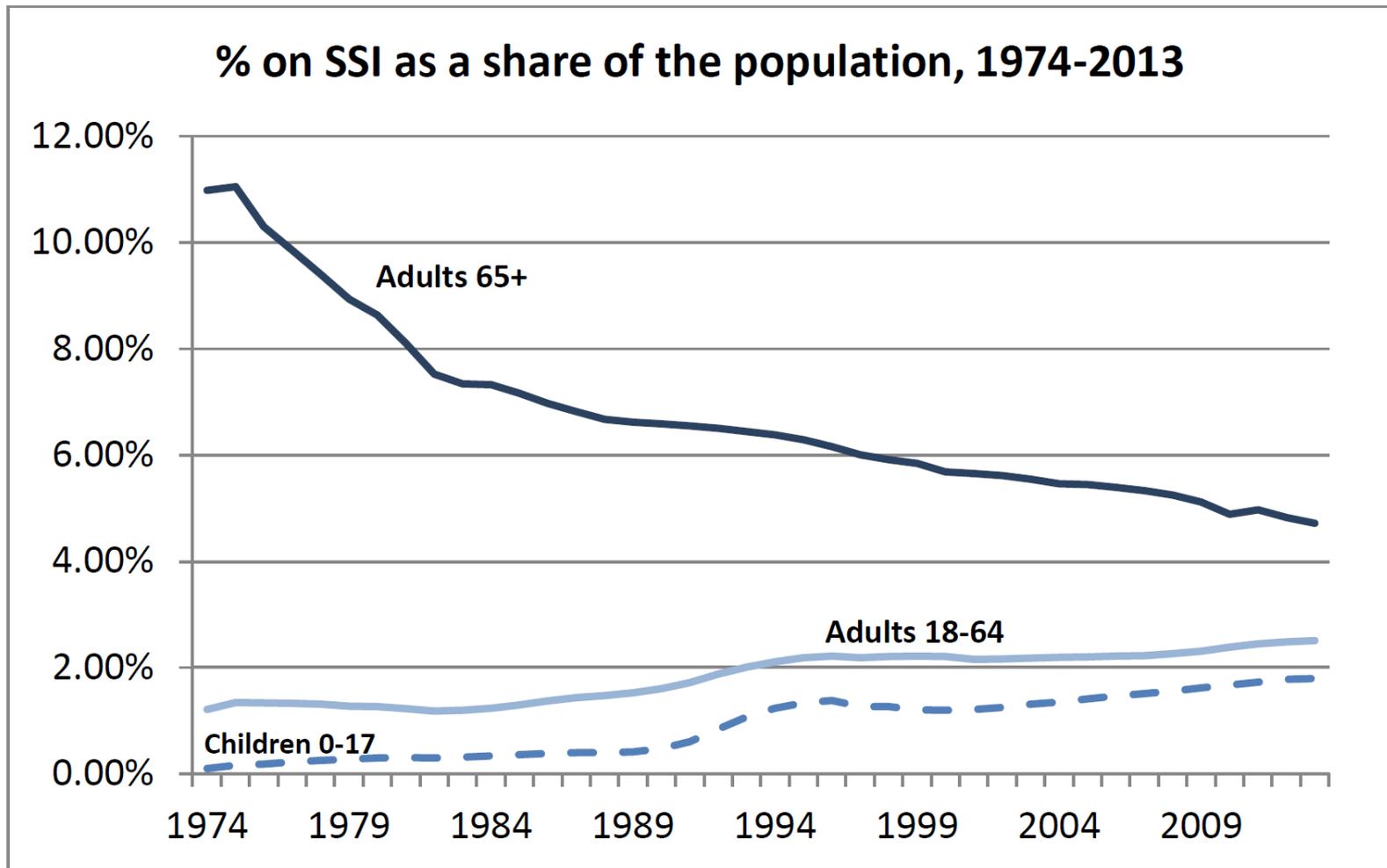


es: Data from SSI Statistical Supplement, 2013. SSA Publication No. 13-11700.

Figure 1: Enrollment in the SSI Children's Program, 1974-2011

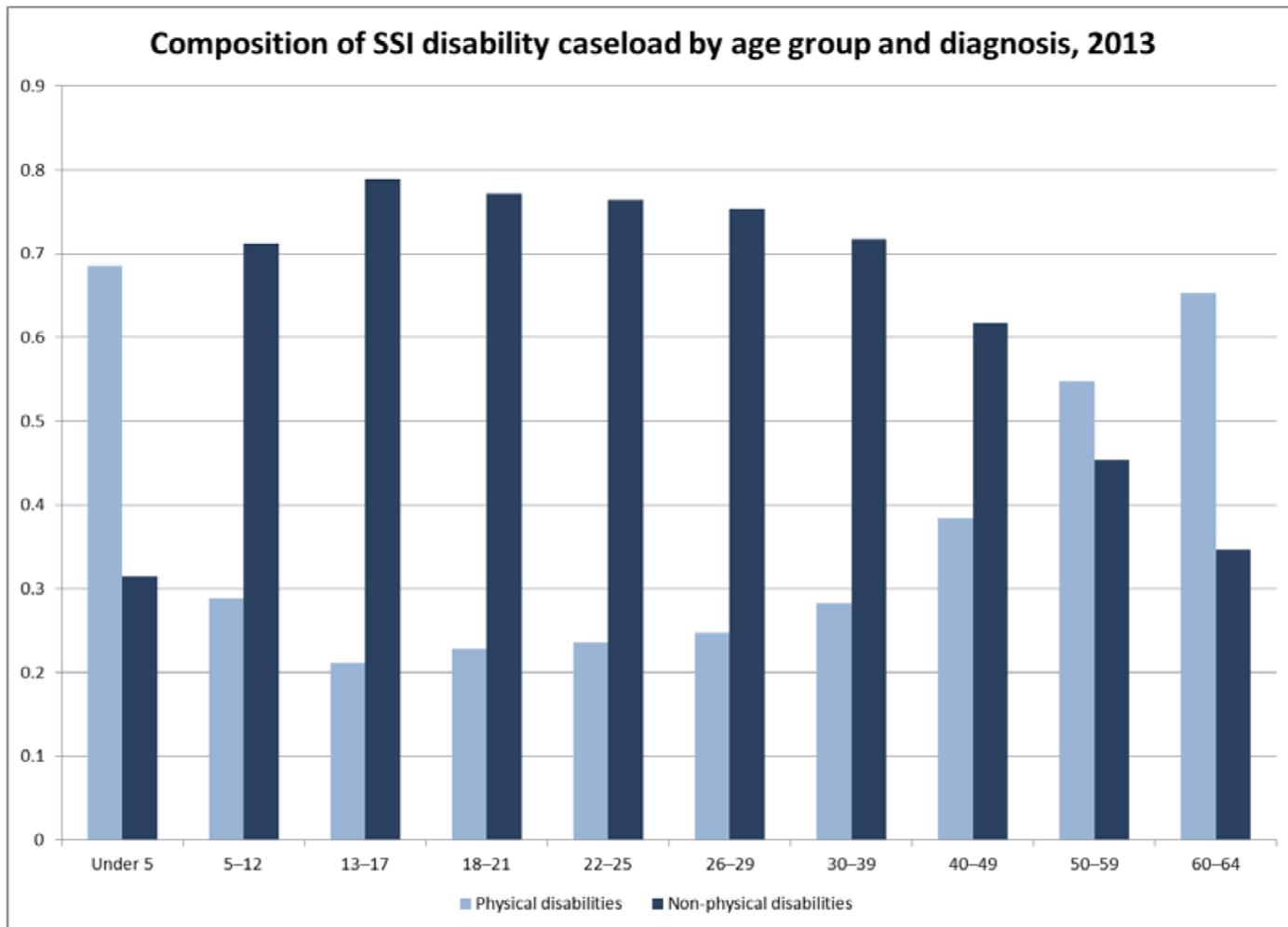


Source: SSI Annual Statistical Reports, 2002-2011.



Notes: Data from SSI Statistical Supplement, 2013. SSA Publication No. 13-11700. Population totals calculated from United States Census Bureau historical population estimates available at <http://www.census.gov/popest/index.html>.

Primary Diagnosis	% Age 0-17 on SSI	% Age 18-64 on SSI
Congenital anomalies	5.5%	0.8%
Endocrine, nutritional, and metabolic diseases	0.7%	2.6%
Infectious and parasitic diseases	0.1%	1.3%
Injuries	0.5%	2.6%
Mental disorders		
Autistic disorders	10.2%	1.8%
Developmental disorders	21.2%	0.7%
Childhood and adolescent disorders NEC	19.5%	1.0%
Intellectual disability	9.1%	18.9%
Mood disorders	3.2%	16.4%
Organic mental disorders	2.2%	3.9%
Schizophrenic and other psychotic disorders	0.3%	8.9%
Other mental disorders	2.6%	5.7%
Neoplasms	1.2%	1.3%
Diseases of the—		
Blood and blood-forming organs	1.1%	0.4%
Circulatory system	0.5%	4.3%
Digestive system	1.3%	1.0%
Genitourinary system	0.3%	1.0%
Musculoskeletal system and connective tissue	0.8%	13.2%
Nervous system and sense organs	7.8%	7.7%
Respiratory system	2.8%	2.1%
Skin and subcutaneous tissue	0.2%	0.2%
Other	7.2%	0.3%
Unknown	1.9%	3.6%



Notes: Data from SSI Annual Statistical Report, 2013. SSA Publication No. 13-11827. The bar for non-physical disabilities includes mental and intellectual disabilities.

Figure 4: Adult SSI population as percent of state adult population, 2013

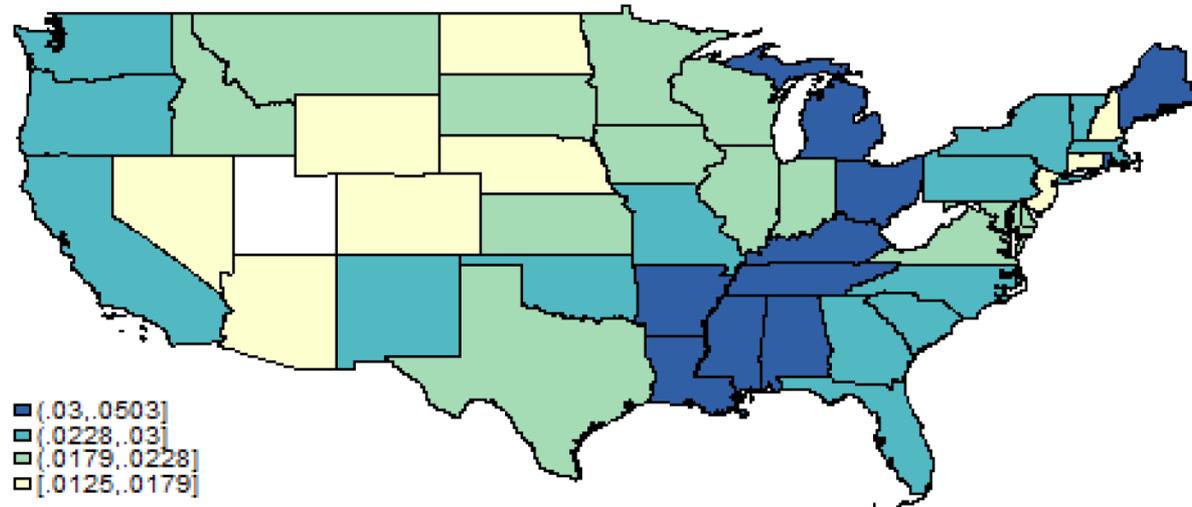
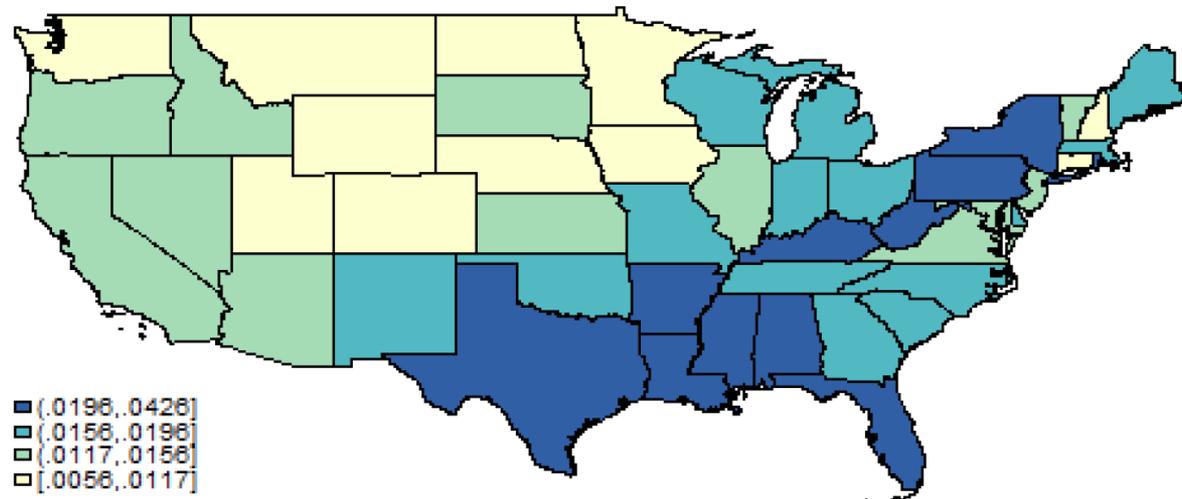


Figure 5: Child SSI population as percent of state child population, 2013



2. Economic Issues and Research Findings

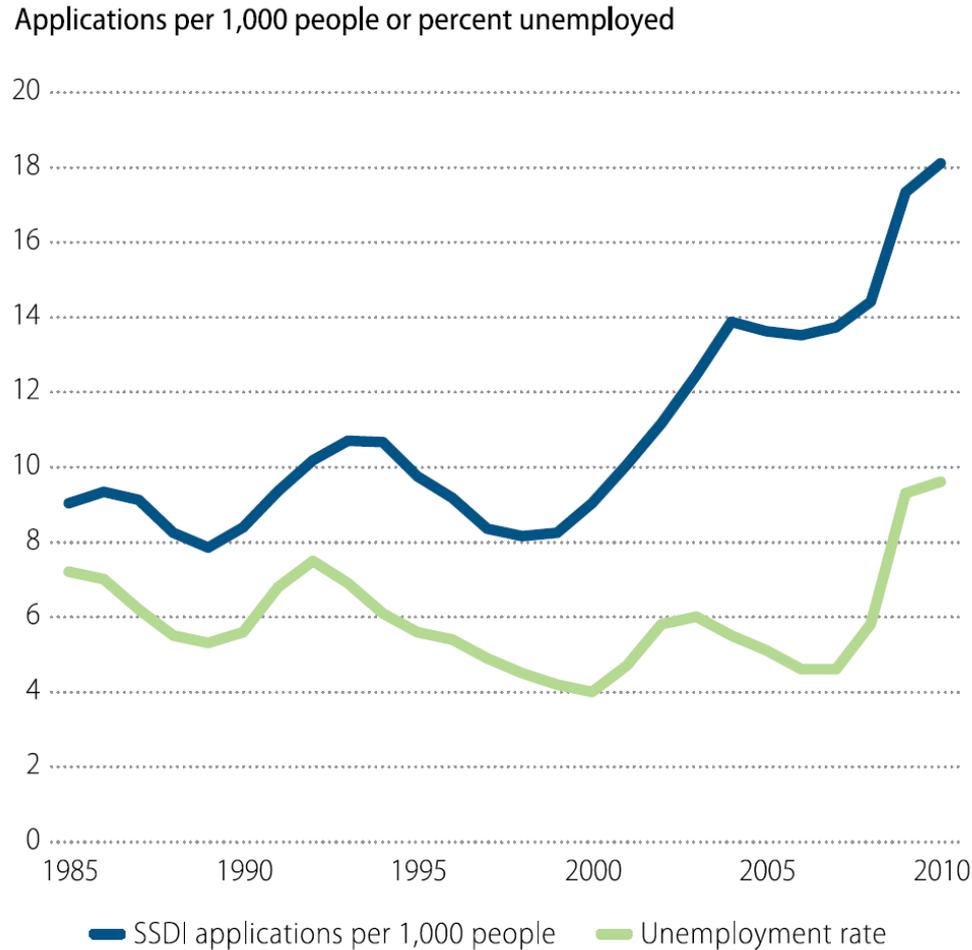
- Protection versus distortion
- Once on disability, very large work disincentives (if income > SGA then lose benefit)
- Individual decision about application: benefit cost calculation; as wage & employment declines → opportunity cost declines → greater incentive to apply
- Child disability – does this affect where they are placed in school (mental/intellectual issues)

Explanations for falling LFPR & Rising SSDI

- [From Autor and Duggan JEP]
- NOT due to falling underlying health of working-age population (though I wonder if they underplay this – all of their estimates are about average health; what if we focus on health of lower skilled workers)
- MODEST share due to aging /demographics / baby boom
- MODEST share for women due to their increased labor force attachment (and therefore rising eligibility)
- MAJOR share due to deterioration of labor market prospects (wages, employment) for less skilled workers
- Workers are most likely to apply for SSDI following a job loss
 - The statutory definition of a disability—“the inability to engage in a substantial gainful activity in the U.S. economy”—depends explicitly on an applicant’s job opportunities
- Just waiting for process to play out means being out of the labor force for a long time (additional work disincentives)

FIGURE 7

SSDI applications per 1,000 adults and U.S. unemployment rate, ages 25-64, 1985-2010



Source: SSA Annual Statistical Supplement, various years; 2010 data from SSA Office of the Actuary; BLS

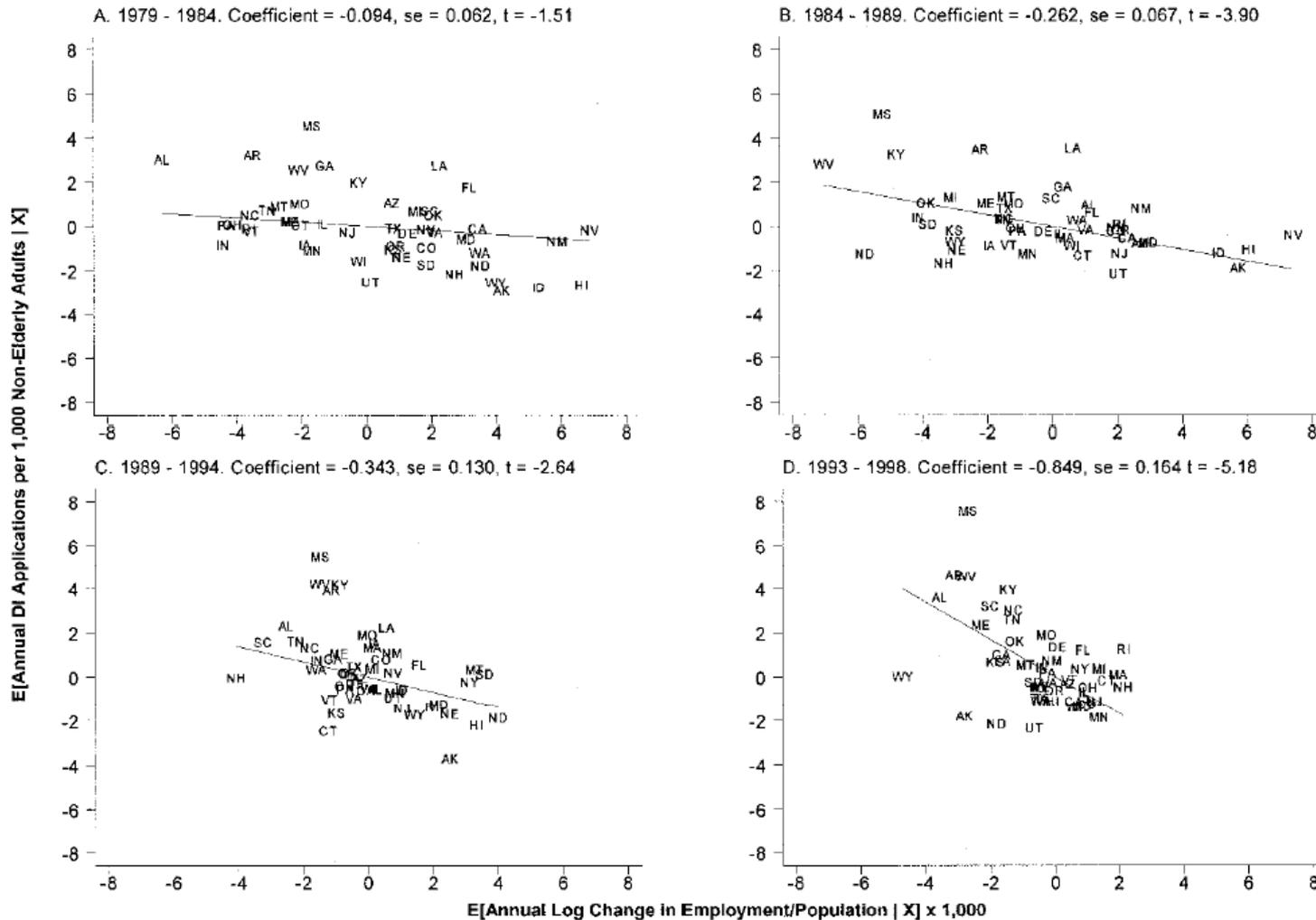


FIGURE III

Impact of Projected Log Employment Shocks on Disability Applications per 1000 Nonelderly Adults at Five-Year Intervals, 1979–1998

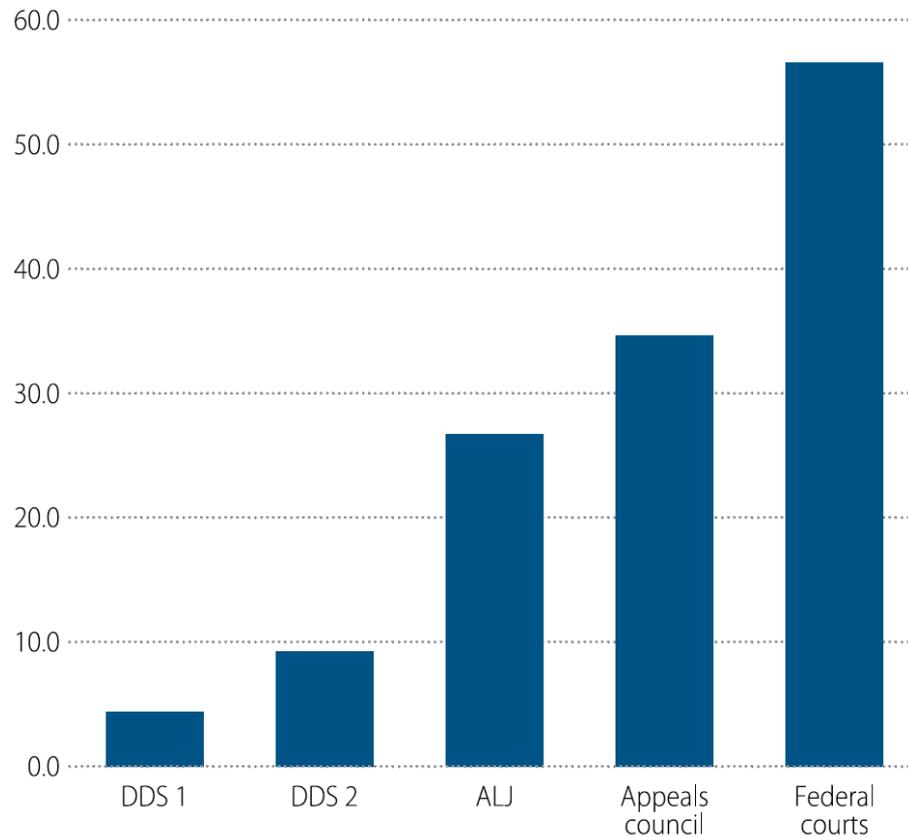
Shows that the larger the employment shock (negative) by state, the larger the increase in SSDI and the relationship is getting stronger over time.

Source: Autor and Duggan, QJE

FIGURE 8A

Cumulative average processing time in 2006 by stage of the application process for SSDI and SSI disability applications

Number of months



Just waiting for process to play out means being out of the labor force for a long time (additional work disincentives)

Source: SSA Office of the Inspector General, "Audit Report: Disability Claims Overall Processing Times," (December 2008).

What we know

- Role of labor market opportunities is large, especially for DI
- Welfare reform accounts for some of the increase in SSI (which is much more expensive, much more permanent compared to TANF)
- Using variation in judges (that generates random variation in the likelihood getting on DI), there are large work disincentives due to SSDI

3. Diving into RD analysis (Deshpande 2014)

Deshpande's research

- Focus on child SSI participation
- Examines distortions of two sorts:
 - Effects of SSI on the child's labor supply (when they reach 18)
 - Effects of SSI on the parent's labor supply (when the child reaches 18)
- Takes advantage of a policy change due to 1996 Welfare Reform act (response to rising rolls post-Zebley)
 - Child turning 18 before 8/22/96: easier to convert to “adult” SSI on reaching 18
 - Child turning 18 after 8/22/96: harder to convert to “adult” SSI on reaching 18
 - This creates a sharp change in policy, triggered by whether you turn 18 before or after a single date → RD
- To do this work, she had to work at SSA to get administrative data to analyze these behaviors

Regression discontinuity

- Sharp change in policy, usually NOT over time, but instead across some characteristic (e.g. birthdate, age)
- “Running variable” – the characteristic under which there is the sharp change; ideally an immutable characteristic
 - So AGE not income, for example
- Empirical Model: single difference design (dummy for > discontinuity) but in addition a flexible function of the running variable, allowing for differences on both sides of the discontinuity.
- General statement of model (assume age a is running variable)

$$y_{ia} = h(a) + D_a\pi + X_{ai}\beta + \epsilon_{ai}$$

- y =outcome variable
- $h(a)$: smooth function of age, parameters differ on either side of discontinuity (like a quadratic)
- D_a = dummy for age > discontinuity, π is treatment effect

Assumptions and checks on data

- Simple really – The change at the discontinuity captures the change you have in mind, not correlation with some other variable. Also that there is not manipulation of the running variable
- Need to confirm that there is no confounding factors also changing at the discontinuity. Usual check: See that other “Xs” are smooth through the discontinuity
- Need to confirm that there is no manipulation of running variable (e.g. income, might adjust to be eligible). Usual check: See if density is smooth through discontinuity
- These models are very data intensive; typically need administrative data (large samples) and quality measurement of running variable
- Often you “zoom in” to a range “close” to the discontinuity. Tradeoff: closer in is better comparison in T vs C, but less sample size (power)

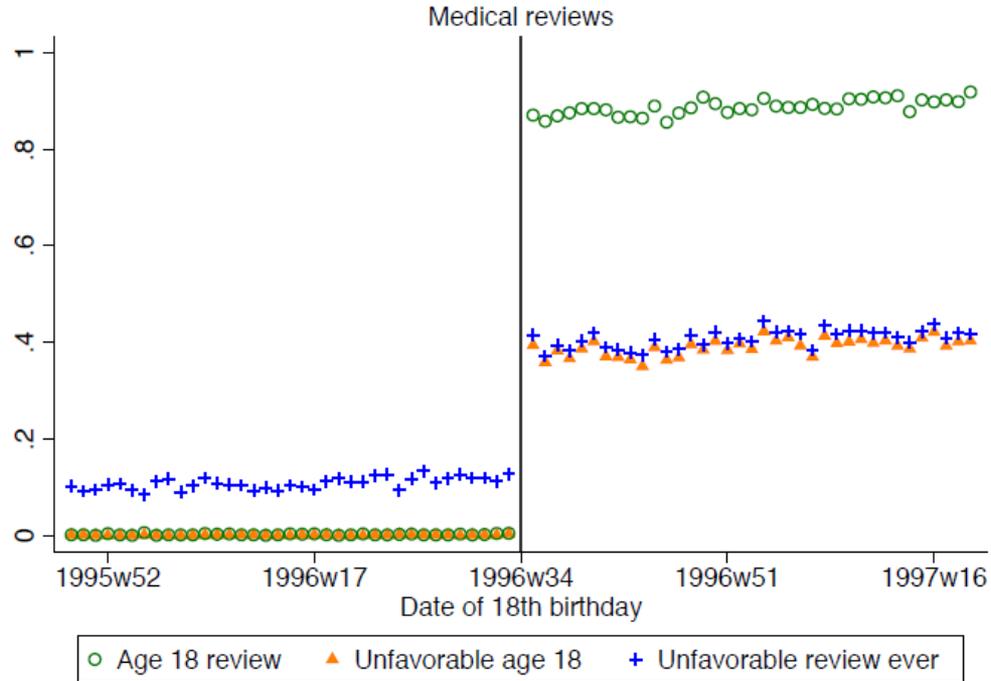
Deshpande's RD model

- “Running variable” – Birth date in weeks (!)
- Pre/Post dummy: Turn 18 after August 22, 1996
- Empirical Model:

$$Y_i = \alpha + \beta \text{Post}_i + \gamma \text{DOB}_i^n + \kappa (\text{Post}_i \times \text{DOB}_i^n) + \epsilon_i$$

- DOB = polynomial of order n, different polynomial for post=0 and post=1

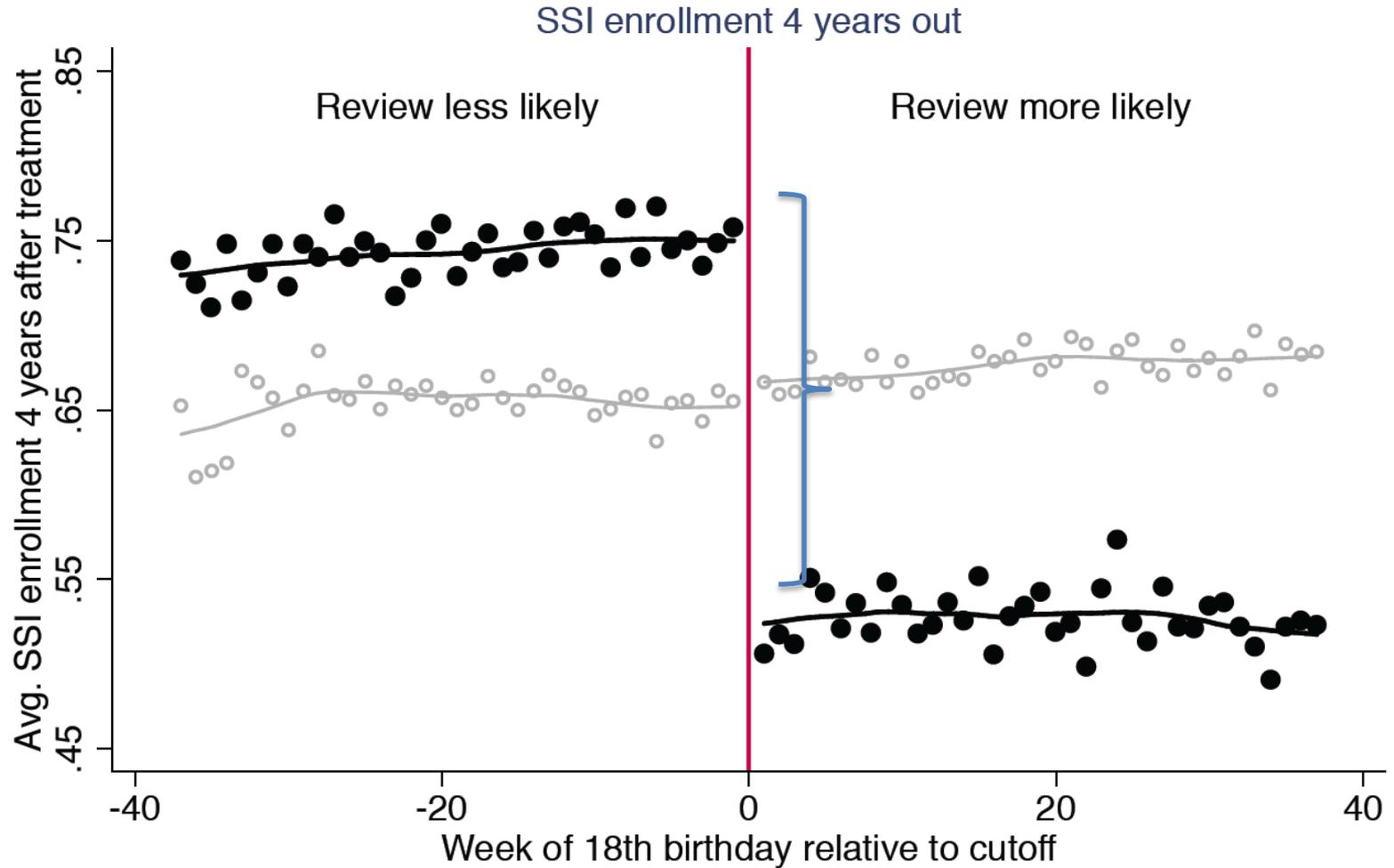
Figure 2: Empirical Strategy Using Variation in Eligibility for Medical Reviews



Notes: Figure plots proportion of SSI children in each birthweek bin who receive an age 18 medical review, receive an unfavorable age 18 medical review, and ever receive an unfavorable medical review (through 2013). Sample is SSI children with an 18th birthday within 37 weeks of the August 22, 1996 cutoff.

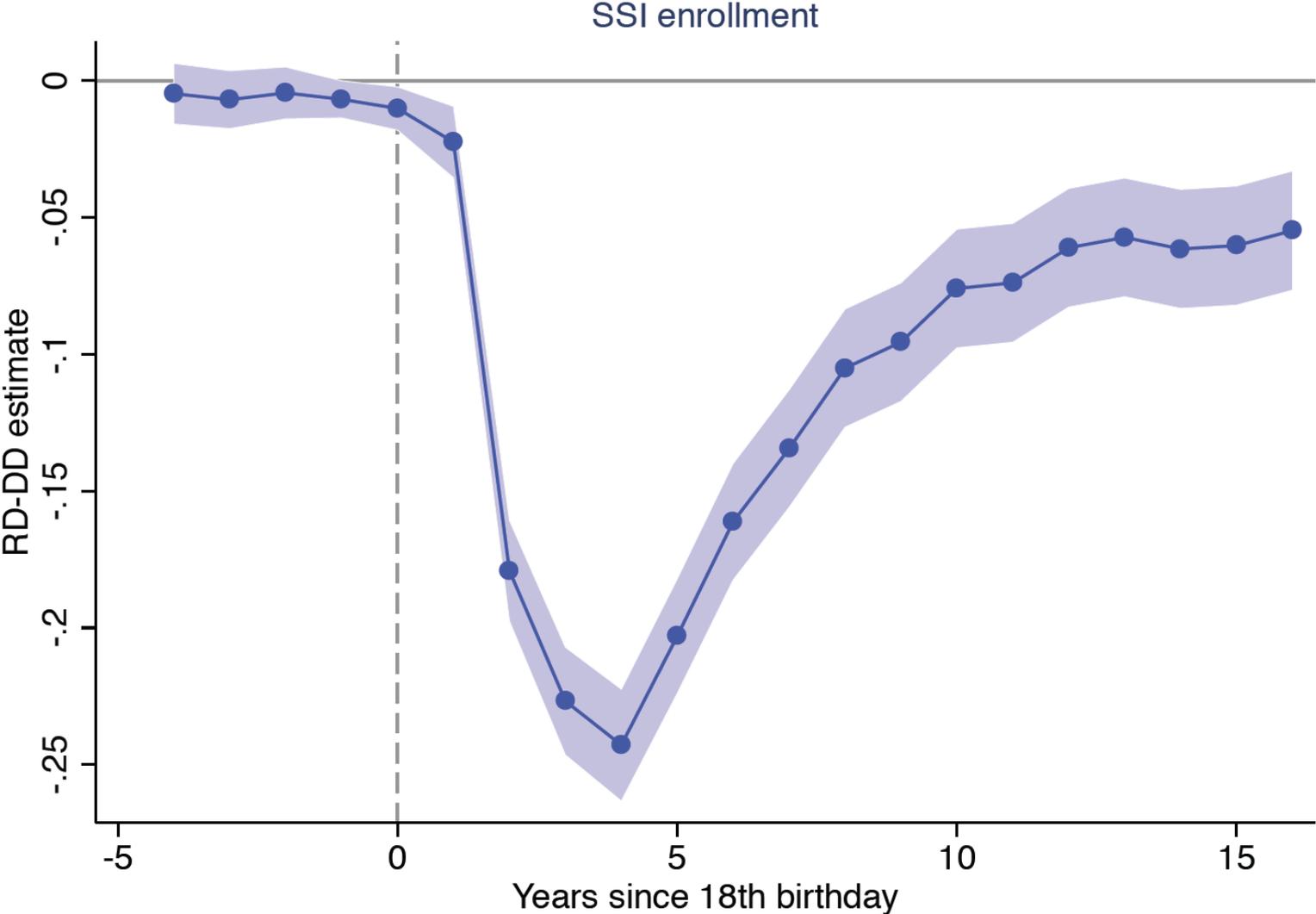
Is there a treatment? Check to see that indeed medical reviews increase after PRWORA date. More unfavorable reviews, ever.

Figure 3: First Stage Effect on SSI Enrollment



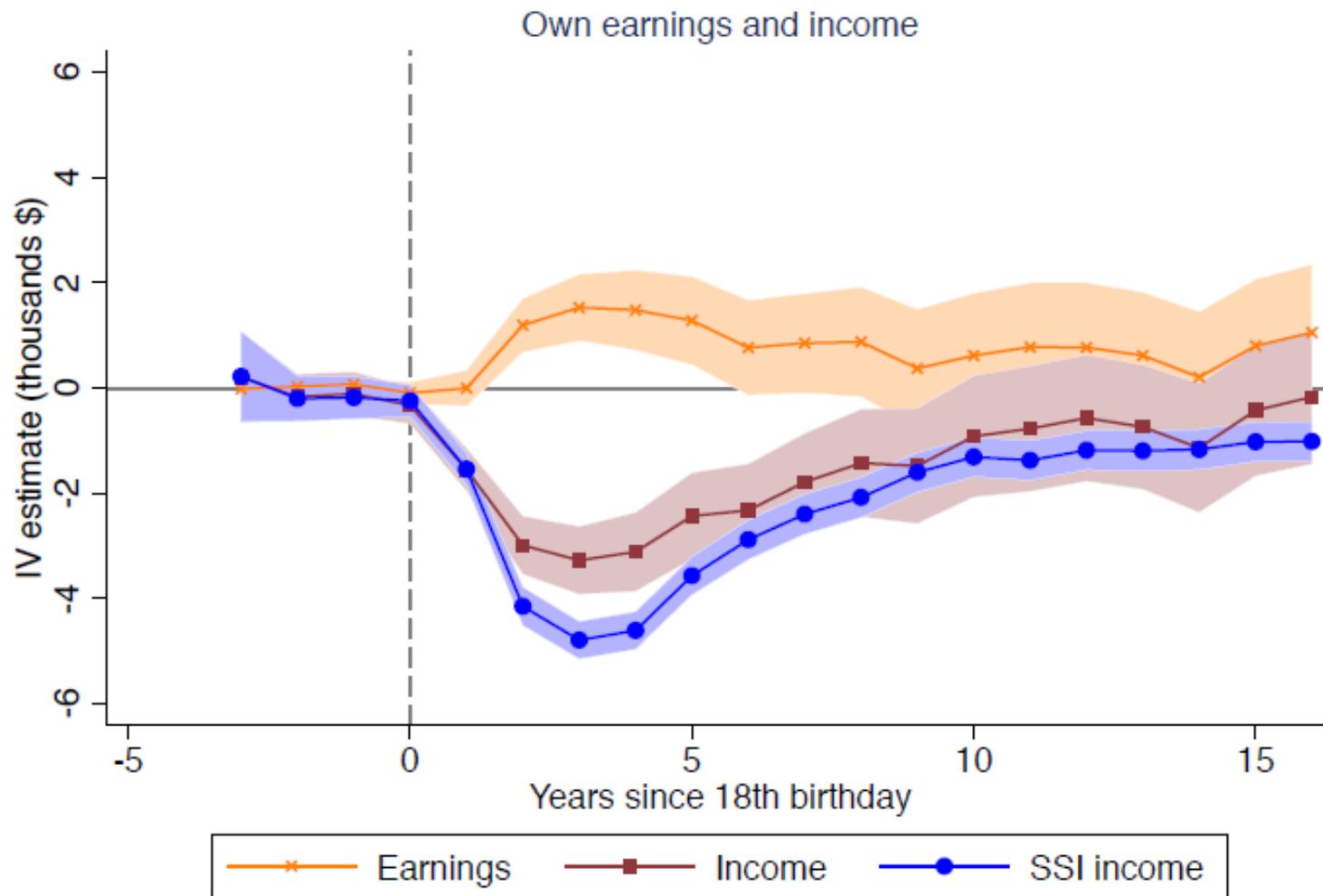
Standard RD graph
Means for each bin
Plus estimated polynomial

Figure 4: Change in First Stage for SSI Enrollment Over Time



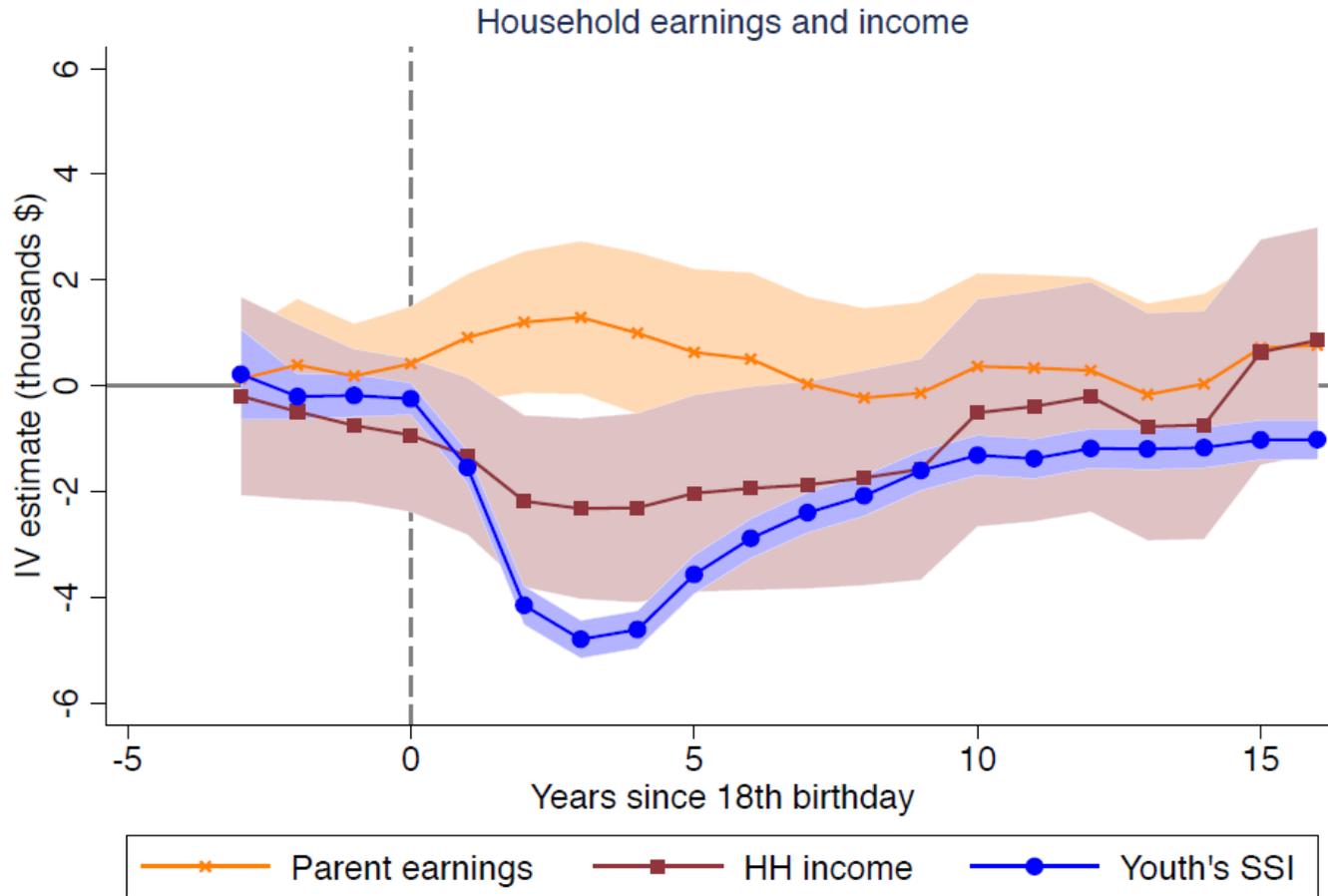
- “IV RD”
- IV = first stage is SSI participation, instrument is when you turn 18 (sample includes those with an 18th birthday within 37 weeks of 8/22/96 cutoff)
- RD = the instrument is in an RD setting
- “IV RD DD” (in updated paper she relies on IV RD as main estimates)
- DD = there is a seasonality in births (within the year), so she differences out the seasonality (diff between the group to the left and right of the cutoff) in an adjacent year (unaffected in any case)
- Then for these comparisons she follows the two groups (on either side of the RD) for 15 years following turning age 18.

IV-RD Effects on own earnings and income



Notes: Figure plots parametric IV RD estimates of the effect of age 18 removal on annual SSI income, earnings, and total income, using a polynomial order of 2 with covariates. Shaded region is 95% confidence interval. Sample is SSI children with 18th birthday within 37 weeks of August 22, 1996 cutoff.

IV-RD Effects on household earnings and income



Notes: Figure plots parametric IV RD estimates of the effect of age 18 removal on annual SSI income, earnings, and total income, using a polynomial order of 2 with covariates. Shaded region is 95% confidence interval. Sample is SSI children with 18th birthday within 37 weeks of August 22, 1996 cutoff.

Results

- SSI youth who are removed earn \$4,000 per year, an increase of \$2,600 relative to the earnings of those who remain on the program
 - But loss of \$7,700 in SSI → large drop in income due to relatively small increase in earnings
 - Also, income volatility increases
 - Little evidence for the hypothesis that SSI holds recipients back from self-sufficiency
- Parental earnings respond to loss of SSI, but again does not make up the loss in income
- Still more to learn, does not answer the question of how the length of time in SSI (pre-age 18) affects the outcomes

Autor and Duggan, THP

- “SSDI is ineffective in assisting workers with disabilities to reach their employment potential or maintain economic self-sufficiency. Instead, the program provides strong incentives to applicants and beneficiaries to remain permanently out of the labor force, and it provides no incentive to employers to implement cost-effective accommodations that enable employees with work limitations to remain on the job. Consequently, too many work-capable individuals involuntarily exit the labor force and apply for, and often receive, SSDI.”

Autor and Duggan, THP

- “today, individuals with work-limiting disabilities often can participate in the labor force and maintain economic self-sufficiency if given appropriate support. The Americans with Disabilities Act of 1990 (ADA) forcefully articulates this contemporary view of disability: *‘Physical or mental disabilities in no way diminish a person’s right to fully participate in all aspects of society... The Nation’s proper goals regarding individuals with disabilities are to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for such individuals.’* “

Author and Duggan's policy proposal

- Modernizing SSDI to better support individuals with disabilities in the workplace
- Add a “front end” to SSDI:
 - workplace accommodations (ADA), rehabilitation services, partial income support, and other services to workers who suffer work limitations, with the goal of enabling them to remain in employment;
 - financial incentives to employers to accommodate workers who become disabled and minimize movements of workers from their payrolls onto the SSDI system

Housing policies
and the importance of place

PP290

Hilary Hoynes

Housing Programs for Low Income Households

1. public housing
2. privately-owned, subsidized housing [supply side]
 - reduced rents for a specified number of years in return for a below market interest rate loan
 - Section 8 New Construction and Substantial Rehabilitation programs provided a direct rental subsidy to tenants
 - Low Income Housing Tax Credit (LIHTC); started in 1986 the largest subsidy for the production of rental housing
3. Tenant based vouchers [demand side]
 - Section 8 Existing Housing Program awards vouchers to low-income households to rent apartments on the private market.

- Means tested; NOT an entitlement (waiting lists)
- Tenant pays 30% of their income in rent, federal government covers the difference
- Cost \$40B/year

Public housing demolition

- Between 1993 and 2007, HOPE VI supported the demolition of more than 150,000 units of public housing, or equal to 11% of the nation's total public housing stock at its height. These demolished units have been fairly geographically concentrated; 60% of them are located in just 33 cities.
- General decline in public housing and increase in private. In part due to concerns about concentration of poverty (in high rise public housing buildings)

Figure 1: Assisted Housing Units and Households
1940-2012

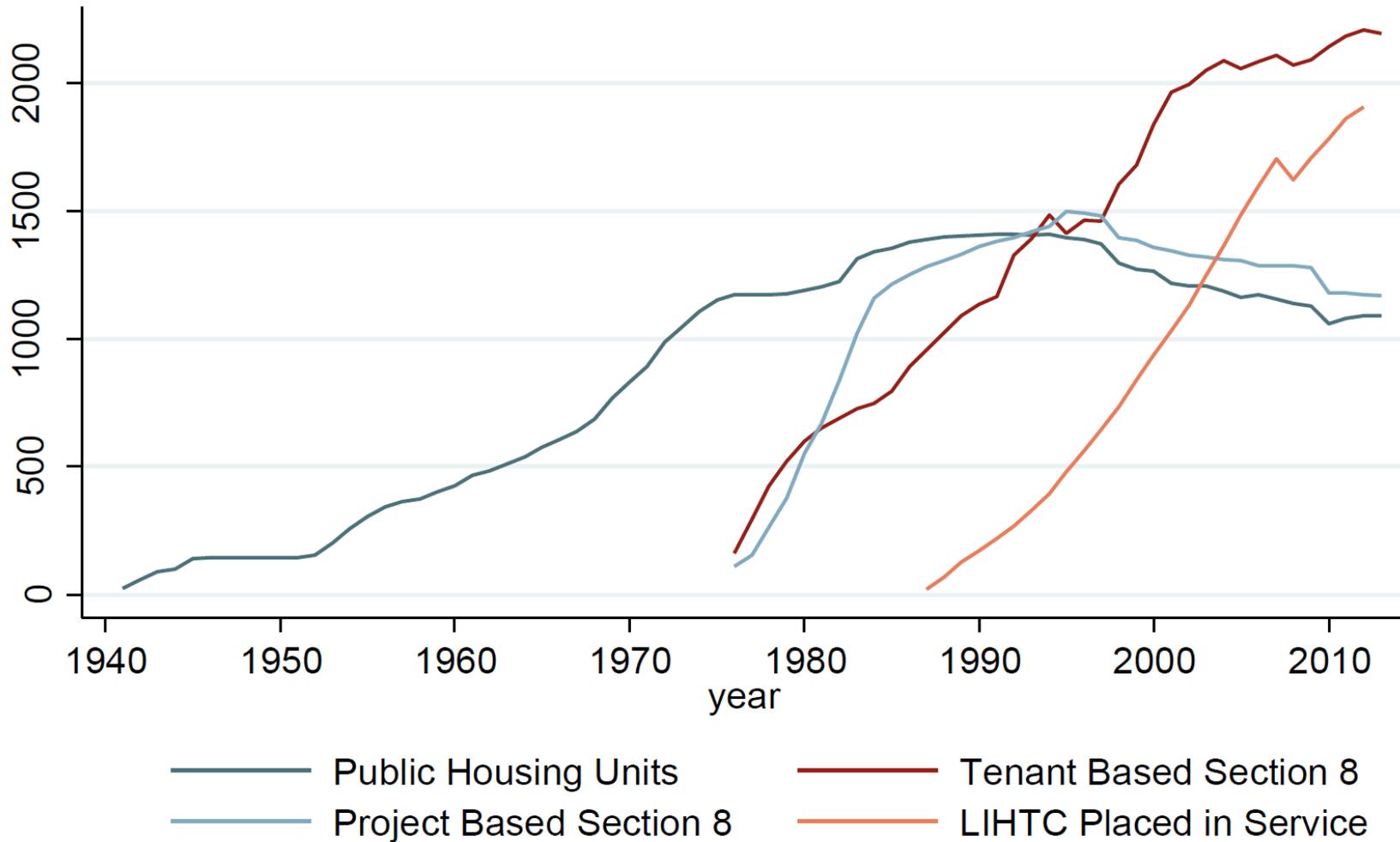


Table 3: Characteristics of HUD-Subsidized Households 2013

Variables	ALL HUD Programs	Housing Choice Vouchers	Public Housing	Project Based Section 8	Other Multifami ly Programs
Subsidized Units Available (000s)	5,256	2,386	1,151	841	656
Subsidized People (000s)	10,077	5,360	2,335	1,247	946
% Occupied	94	92	94	96	95
Subsidized HHs Reported (000s)	4,553	2,113	1,071	785	493
Average Rent/Month, Inc. Utilities	304	346	275	274	255
Average Household Income/Year	12890	13138	13724	12172	11135
Average People/Household	2.1	2.4	2.2	1.5	1.8
Income as Percent of Area Median	0.23	0.22	0.25	0.24	0.21
Neighborhood Poverty Rate	0.25	0.22	0.32	0.23	0.27
%62+, Head or Spouse	0.33	0.22	0.31	0.56	0.44
% LT62 w/Disability, Head or Spouse	0.34	0.36	0.31	0.44	0.26
% Single Parent	0.35	0.43	0.35	0.18	0.3
% 2+ adults with children	0.04	0.05	0.05	0.03	0.04
% With Children Under 18	0.39	0.48	0.4	0.21	0.34
% LT 50% Area Median Income	0.95	0.96	0.91	0.96	0.98
% LT 30% Area Median Income	0.75	0.76	0.72	0.73	0.78
% Minority total	0.64	0.67	0.71	0.45	0.63
% Black	0.44	0.48	0.48	0.29	0.45
% Hispanic	0.17	0.15	0.23	0.14	0.16
Minority as % of Neighborhood	0.56	0.57	0.62	0.45	0.58

Source: HUD, A Picture of Subsidized Housing 2013

EFFECTS OF HOUSING VOUCHERS

The Chicago Lottery

Jacob et al, “The Impact of Housing Assistance on Child Outcomes: Evidence from a Randomized Housing Lottery” QJE

Jacob Ludwig “The Effects of Housing Assistance on Labor Supply: Evidence from a Voucher Lottery.”
American Economic Review, 2012

The Chicago Voucher Lottery

- July 1997, voucher waiting list opened up for first time in 12 years
 - 82,607 applications (a large share 300,000 poor households in Chicago at the time)
 - Randomly assigned to waiting list
 - Notified top 35,000 and told they would be offered a spot within 3 years.
 - By 2003, 18,110 offered vouchers
- Treatment = 18,110 offered vouchers
- Control = waiting list number higher than 35,000
- [Those with waiting list number between 18,110 and 35,000 had an ambiguous status since they may have anticipated getting the voucher]

PRIMER: The fundamentals of an RCT

- Start with population of interest (here potential public housing recipients)
- RANDOMLY select one group to obtain the treatment and the other to not get the treatment
 - Treatment group
 - Control group
- Difference in mean outcomes between treatment and control group = $\bar{Y}_1 - \bar{Y}_0$ is the experimental effect of the treatment

Treated	\bar{Y}_1		
Control	\bar{Y}_0		
Difference	$\bar{Y}_1 - \bar{Y}_0$		

Regression version of RCT

$$y_i = \alpha + \delta T_i + X_i\beta + \varepsilon_i$$

- δ is the treatment effect
- Adding X s increases the precision, but if it is a well done experiment, then it should not have much impact on the estimated treatment effect.

Particulars of a LOTTERY RCT

- Announce a new opportunity or program (Charter school openings, Head Start openings, Medicaid slots, housing vouchers)
- KEY: Oversubscription exists (number of those who demand the new opportunity exceeds the supply of slots)
- Randomization: is the OFFER of the slot
- ITT: intent to treat, compare those offered the slot to those not offered the slot (reduced form, program evaluation)
- TOT: treatment on the treated, effect of getting the treatment on your outcome (use offer of slot as the INSTRUMENT)
- Have to deal with issues of compliers (among those offered the slot, who takes it up?) and always takers (those who get the slot even if not offered the voucher)
- Standard checks for RCT: balance in pre-RA Xs between the T and C group

BACK TO CHICAGO

EFFECTS OF HOUSING VOUCHERS

The Chicago Lottery

- What are the effects on poor children and their parents from expanding the housing voucher program and reducing the share of low-income families who consume housing without a government subsidy?
- Measure outcomes for children up to 14 years after the voucher lottery
 - standardized test scores, high school graduation
 - Arrests
 - Earnings, social welfare receipt
 - health outcomes from Medicaid claims data
- Large subsidy: housing voucher is over \$12,000, equal to roughly two-thirds the average baseline income (\$19,000).

Data

- Applications– which include address
- Track locations with various administrative data bases and the 2000 Census.
- Administrative data to check if resident of Chicago Public Housing
- Labor force participation from Illinois state administrative data (UI)
- Welfare participation (AFDC/TANF, Food Stamps, Medicaid) from administrative data
- Criminal behavior using data from the Illinois State Police (ISP) that capture arrests

Validity

- Check balance between T and C group (Table 1)
- Half of those offered the treatment used a voucher
 - Compliers are those who took up conditional on being offered
 - Noncompliers did not take up
 - This status is endogenous.

Empirical approach

- (ITT) Reduced form: impact of T on outcome (separate dummy for before and after T is offered the voucher)

$$(1) \quad y_{it} = \alpha + \beta_1(PostOffer_{it}) + \beta_2(PreOffer_{it}) + \mathbf{X}\Gamma + \gamma_t + \varepsilon_{it}.$$

- (TOT) IV: Use T as instrument for leasing section 8 voucher

$$(2) \quad Leased_{it} = \alpha + \theta_1 PostOffer_{it} + \theta_2 PreOffer_{it} + \mathbf{X}\Gamma + \gamma_t + \varepsilon_{it}$$

$$(3) \quad y_{it} = \eta + \pi_1 Leased_{it} + \mathbf{X}\Pi + \mu_t + v_{it}.$$

- Event study (REDUCED FORM)

$$y_{it} = \alpha + \sum_k D_{it}^k \delta_k + \mathbf{X}\Gamma + \gamma_t + \varepsilon_{it},$$

Table III: Housing Voucher Effects on Education, Criminal Behavior, and Health

Baseline Age	Outcome	Children/ Obs.	CM	ITT	IV
		(1)	(2)	(3)	(4)
<i>Male</i>					
0-6	Test score	8,659 [51,339]	-0.3339	0.0369* (0.0190)	0.0634* (0.0325)
6-18	Test score	14,348 [68,787]	-0.3248	0.0068 (0.0152)	0.0126 (0.0273)
6-18	High school graduation	13,183 [13,183]	0.3940	0.0150 (0.0094)	0.0286 (0.0178)
All	Soc. costs, most conservative	33,400 [283,091]	3,084	-161 (98)	-344* (206)
0-6	Inpatient or emergency claim	9,538 [52,378]	0.2449	-0.0012 (0.0063)	-0.0014 (0.0114)
6-18	Inpatient or emergency claim	12,526 [56,480]	0.2471	-0.0059 (0.0060)	-0.0105 (0.0112)
<i>Female</i>					
0-6	Test score	8,488 [52,107]	-0.1446	0.0019 (0.0183)	0.0029 (0.0316)
6-18	Test score	14,855 [73,389]	-0.1479	0.0168 (0.0143)	0.0300 (0.0273)
6-18	High school graduation	13,792 [13,792]	0.5766	0.0101 (0.0094)	0.0190 (0.0176)
All	Soc. costs, most conservative	33,210 [284,057]	574	61** (30)	121* (63)
0-6	Inpatient or emergency claim	9,379 [50,549]	0.2119	0.0018 (0.0062)	0.0032 (0.0113)
6-18	Inpatient or emergency claim	16,050 [75,526]	0.3702	0.0025 (0.0056)	0.0047 (0.0108)

Why do they find no result on children?

Receipt of a housing voucher does not seem to improve neighborhood or school inputs

Table IV: Housing Voucher Effect on Geographic Outcomes (10% Sample)

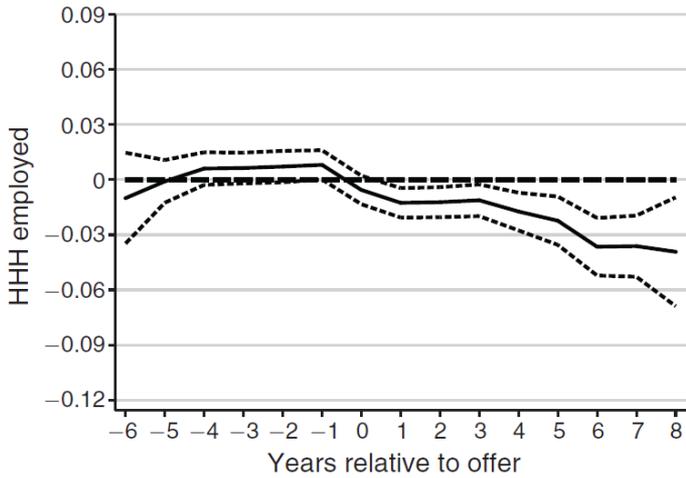
	1997-2005 Addresses		
	CM (1)	ITT (2)	IV (3)
Has address on file	0.897	0.0067 (0.0082)	0.0141 (0.0173)
Miles from baseline address			
Living in IL	0.956	0.0041 (0.0072)	0.0085 (0.0151)
Fraction of quarters outside IL	0.0471	-0.0064 (0.0071)	-0.0132 (0.0146)
Living in Cook County, IL			
Poverty rate > 20% ^{2,3}	0.655	-0.0088 (0.0176)	-0.0184 (0.0362)
Poverty rate ^{2,3}	0.273	0.0039 (0.0055)	0.0075 (0.0112)
Fraction black ^{2,3}	0.794	0.0012 (0.0084)	0.0023 (0.0172)
Social capital ^{2,4}	3.495	-0.0056 (0.0057)	-0.0109 (0.0114)
Collective efficacy ^{2,4}	3.761	-0.0158** (0.0078)	-0.0312** (0.0155)
Violent crime rate (per 1,000) ⁵	17.633	-0.0896 (0.3026)	-0.1920 (0.5998)
Property crime rate (per 1,000) ⁵	75.479	-3.1948*** (0.9911)	-6.2988*** (1.9753)

Table V: Housing Voucher Effects on Children's Characteristics and Moving

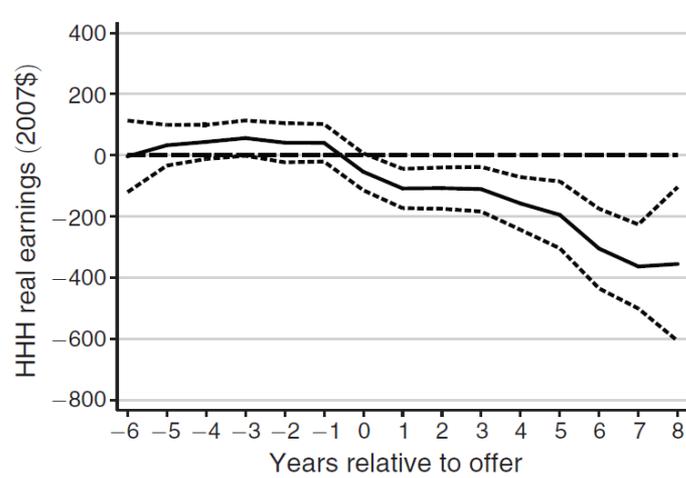
Outcome	CM	ITT	IV
	(2)	(3)	(4)
<i>Males age 0-6 at baseline</i>			
Fraction minority	0.9668	0.0014 (0.0018)	0.0025 (0.0031)
Fraction with subsidized lunch	0.8698	0.0009 (0.0018)	0.0016 (0.0031)
Average test score	-0.1981	0.0035 (0.0058)	0.0062 (0.0100)
School moves	0.26	0.0074 (0.0045)	0.0132* (0.0078)
Miles from baseline address to school	2.91	0.2053** (0.0827)	0.3609** (0.1437)
<i>Females age 0-6 at baseline</i>			
Fraction minority	0.9662	0.0025 (0.0018)	0.0044 (0.0032)
Fraction with subsidized lunch	0.8677	0.0006 (0.0019)	0.0010 (0.0034)
Average test score	-0.1800	-0.0000 (0.0061)	-0.0002 (0.0108)
School moves	0.25	0.0108** (0.0045)	0.0196** (0.0079)
Miles from baseline address to school	2.86	0.2469*** (0.0789)	0.4419*** (0.1380)

The same lottery shows that housing vouchers reduce parental labor supply (Jacob and Ludwig 2012). “Standard” response to benefit with tax rate.

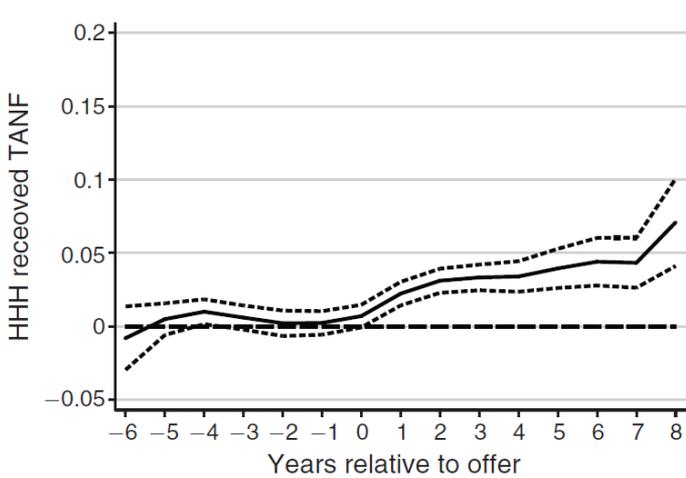
Panel A. HHH employed



Panel B. HHH real earnings (2007 dollars)



Panel C. HHH receiving any public assistance



Panel D. HHH conditional earnings

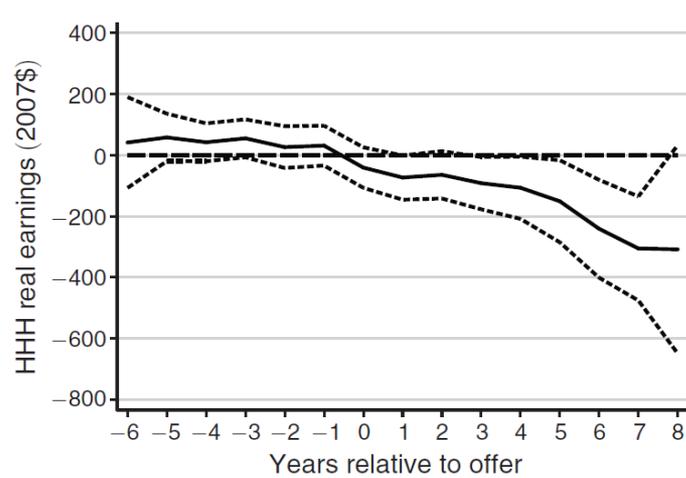


FIGURE 2. ITT EFFECT OF VOUCHERS OVER TIME ON EMPLOYMENT AND RECEIPT OF PUBLIC ASSISTANCE

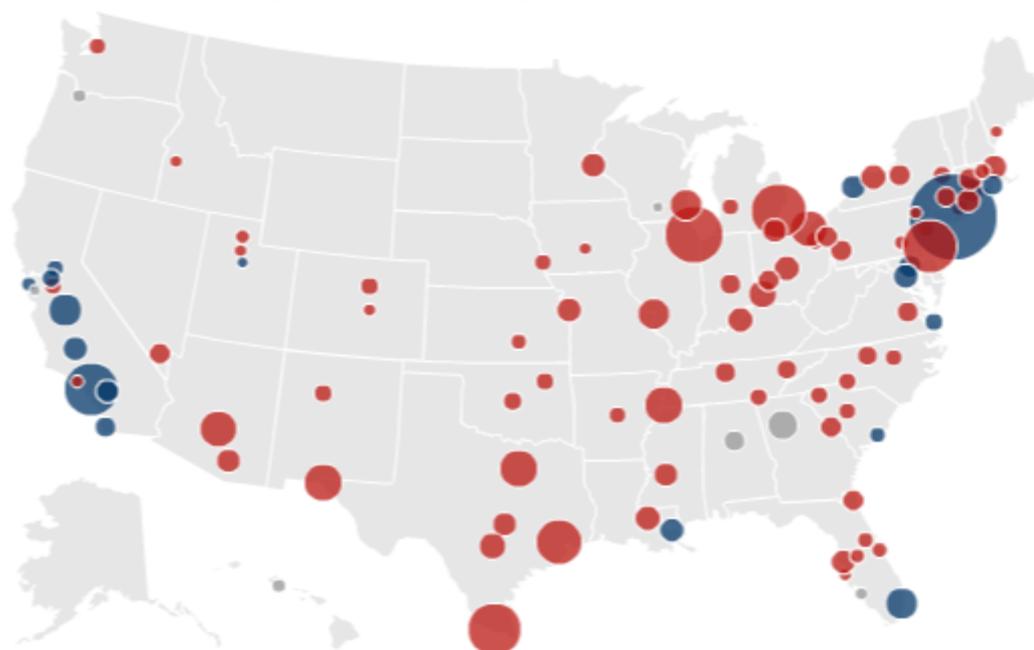
Moving to Opportunity

- If the families do not end up in measurably different neighborhoods and schools, this leads to the next policy.
- What if we tie the voucher to moving to a “better” neighborhood?
- → MTO
- Speaks to literature on:
 - Neighborhood effects
 - Impacts of public housing
- Limits to interpretation: Moving is bundled with moving to a better place

After declining in the 1990s, the population in extreme-poverty neighborhoods—where at least 40 percent of individuals live below the poverty line—rose by one-third from 2000 to 2005–09. By the end of the period, 10.5 percent of poor people nationwide lived in such neighborhoods, up from 9.1 percent in 2000, but still well below the 14.1 percent rate in 1990.

People Living in Extreme-Poverty Tracts, 2005-09

Click a metro area to view a detailed profile of concentrated poverty



Circles are sized according to the number of people living in extreme-poverty tracts in 2005-09, and colored according to whether the number of people living in extreme-poverty tracts increased or declined between 2000 and 2005-09.



- Increase
- No significant change
- Decrease

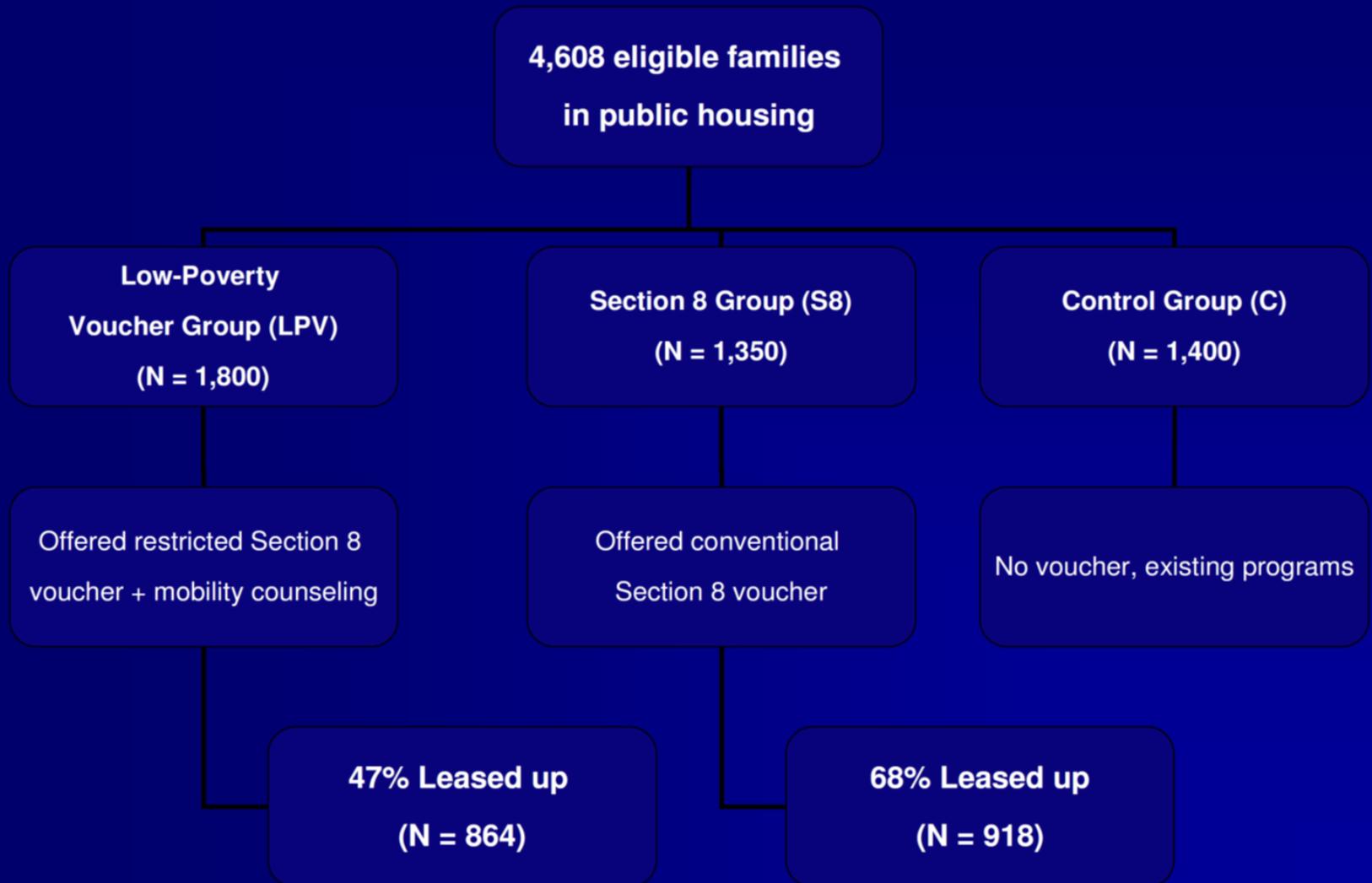
Source: Brookings Institution analysis of Census 2000 and 2005-09 American Community Survey five-year estimates

BROOKINGS

Moving to Opportunity Experiment

- HUD Moving to Opportunity Experiment implemented from 1994-1998
- 4,600 families at 5 sites: Baltimore, Boston, Chicago, LA, New York
- Families randomly assigned to one of three groups:
 1. Experimental: housing vouchers restricted to low-poverty (<10%) Census tracts
 2. Section 8: conventional housing vouchers, no restrictions
 3. Control: public housing in high-poverty (50% at baseline) areas

Random assignment to 3 groups



- They use a regression specification used in prior work [Kling, Katz, Liebman 2007]

$$y_i = \alpha + \beta_E^{ITT} Exp_i + \beta_S^{ITT} S8_i + s_i \delta_s + \epsilon_i$$

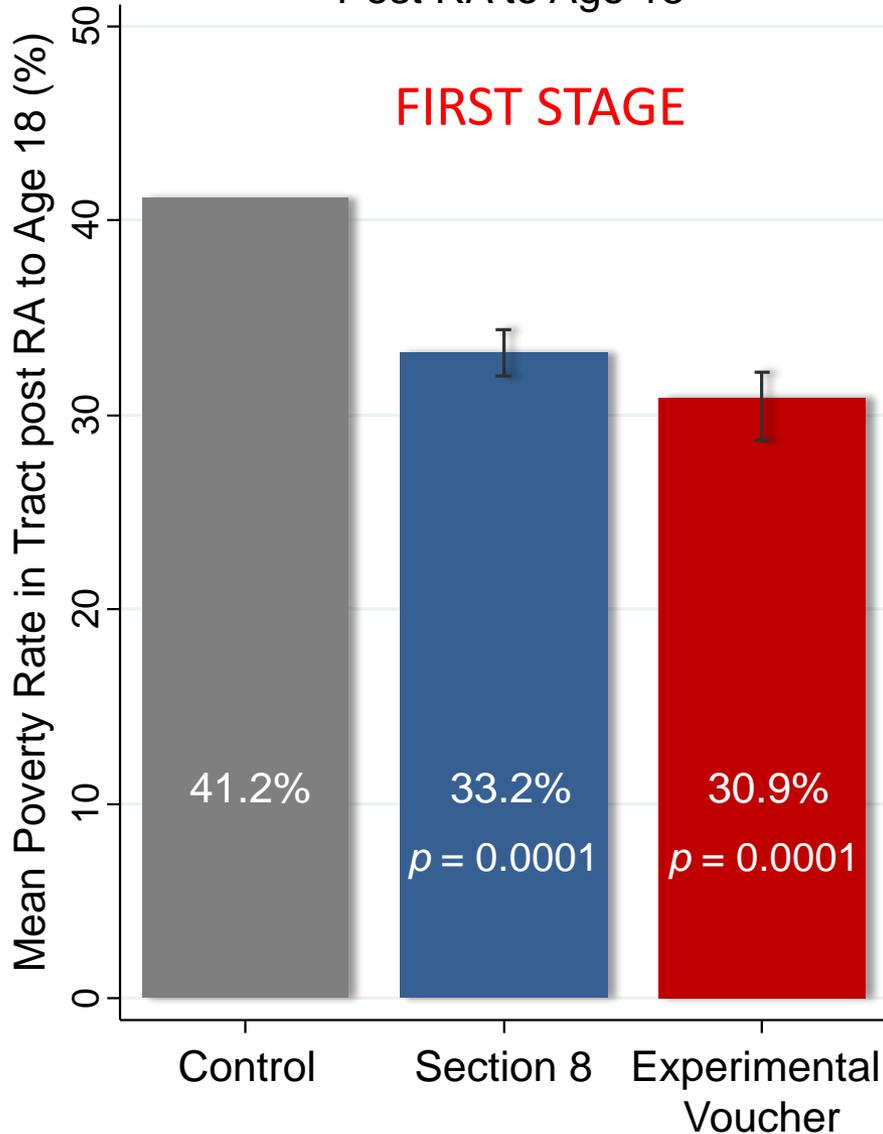
Treatment
Indicators

Site
Indicators

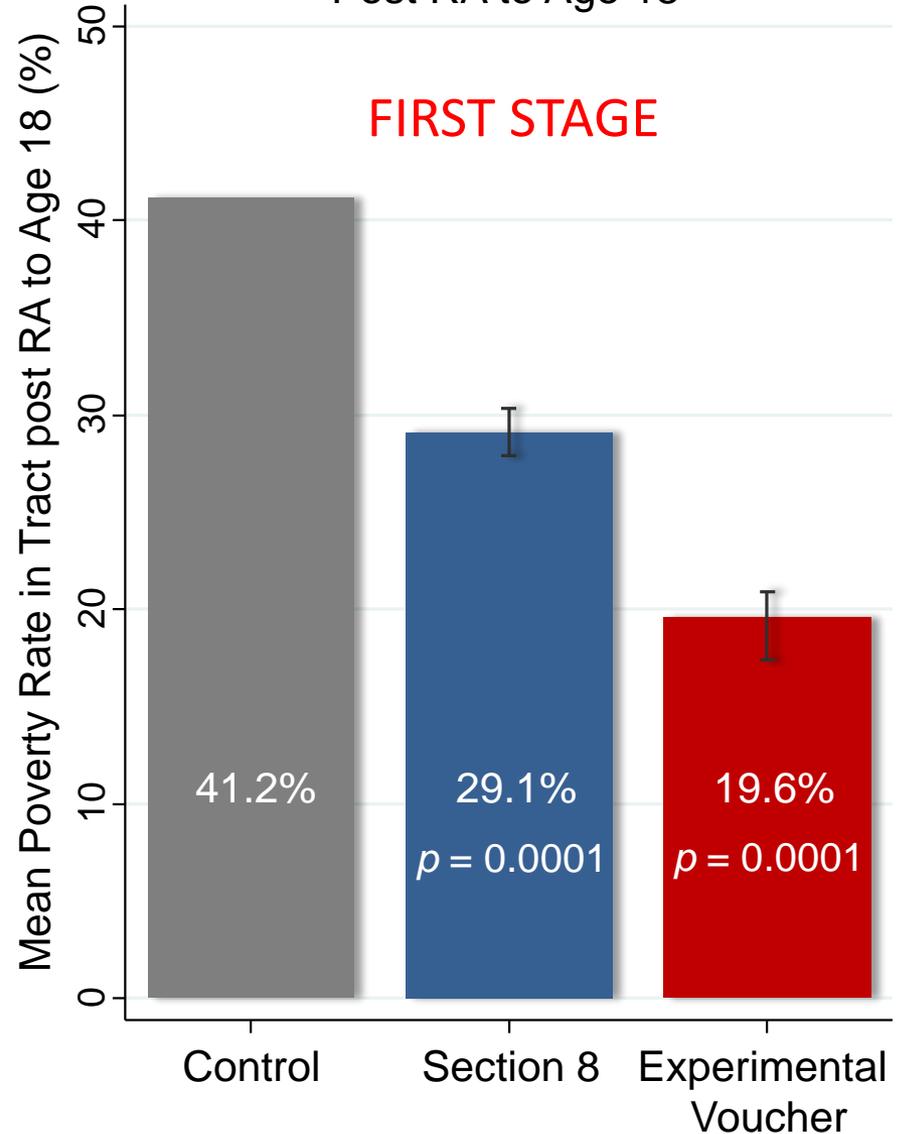
- These intent-to-treat (ITT) estimates identify effect of being *offered* a voucher to move through MTO
- Estimate treatment-on-treated (TOT) effects using 2SLS, instrumenting for voucher take-up with treatment indicators
 - Experimental take-up: 48% for young children, 40% for older children
 - Section 8 take-up: 65.8% for young children, 55% for older children

Impacts of MTO on Children Below Age 13 at Random Assignment

(a) Mean Poverty Rate in Tract (ITT)
Post RA to Age 18

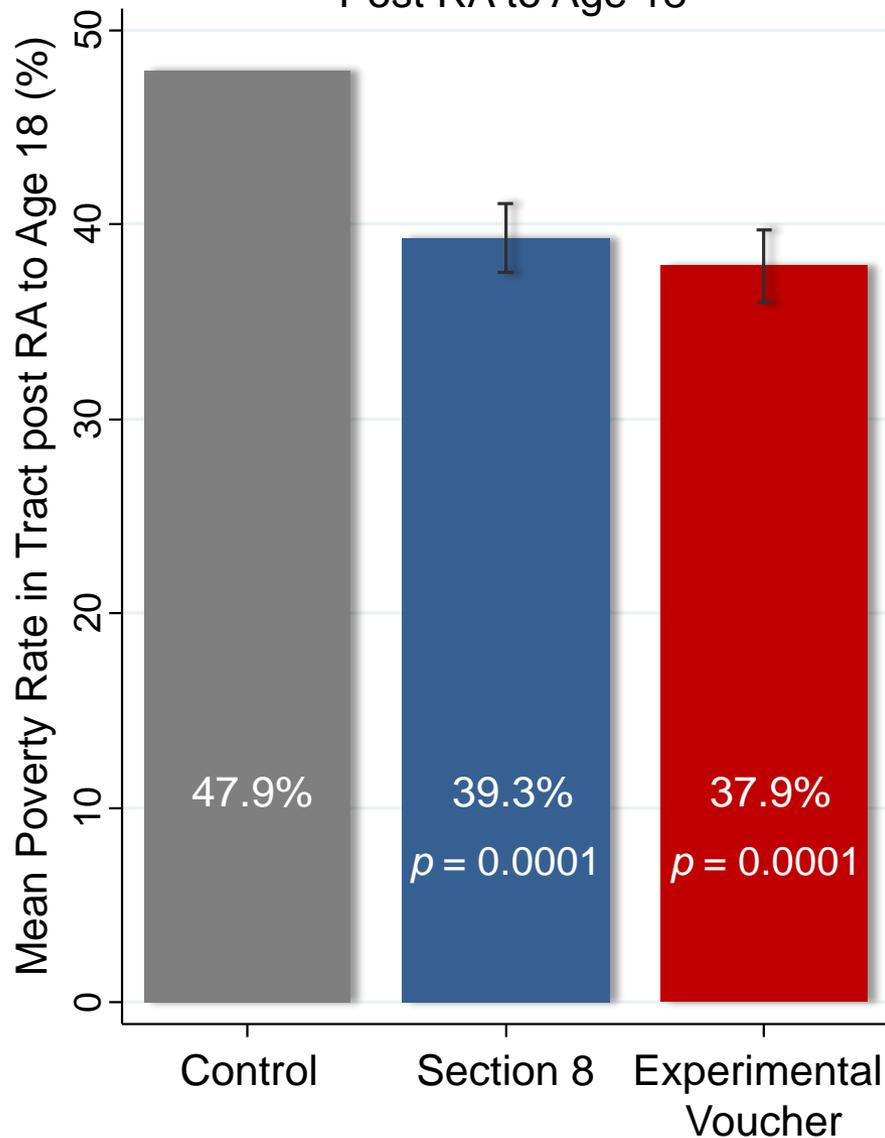


(b) Mean Poverty Rate in Tract (TOT)
Post RA to Age 18

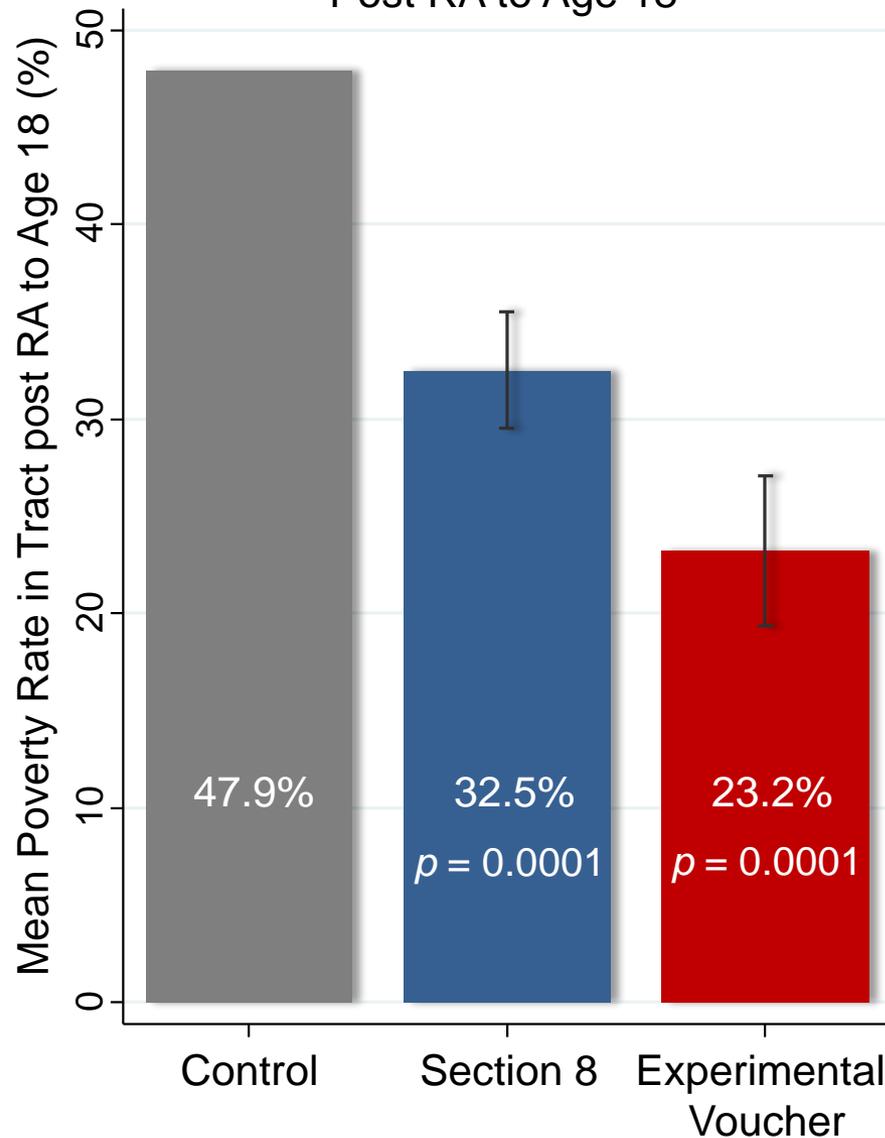


Impacts of MTO on Children Age 13-18 at Random Assignment

(a) Mean Poverty Rate in Tract (ITT)
Post RA to Age 18



(b) Mean Poverty Rate in Tract (TOT)
Post RA to Age 18

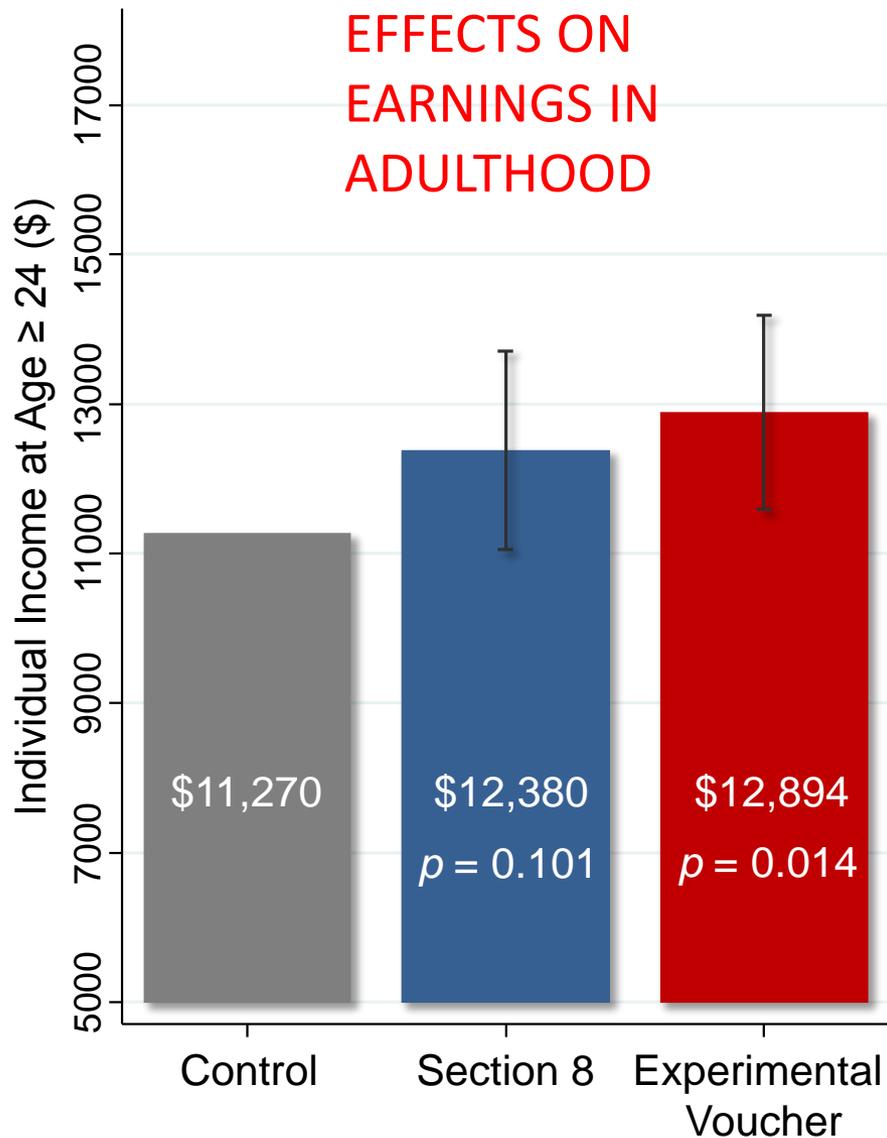


Impacts on outcomes in adulthood

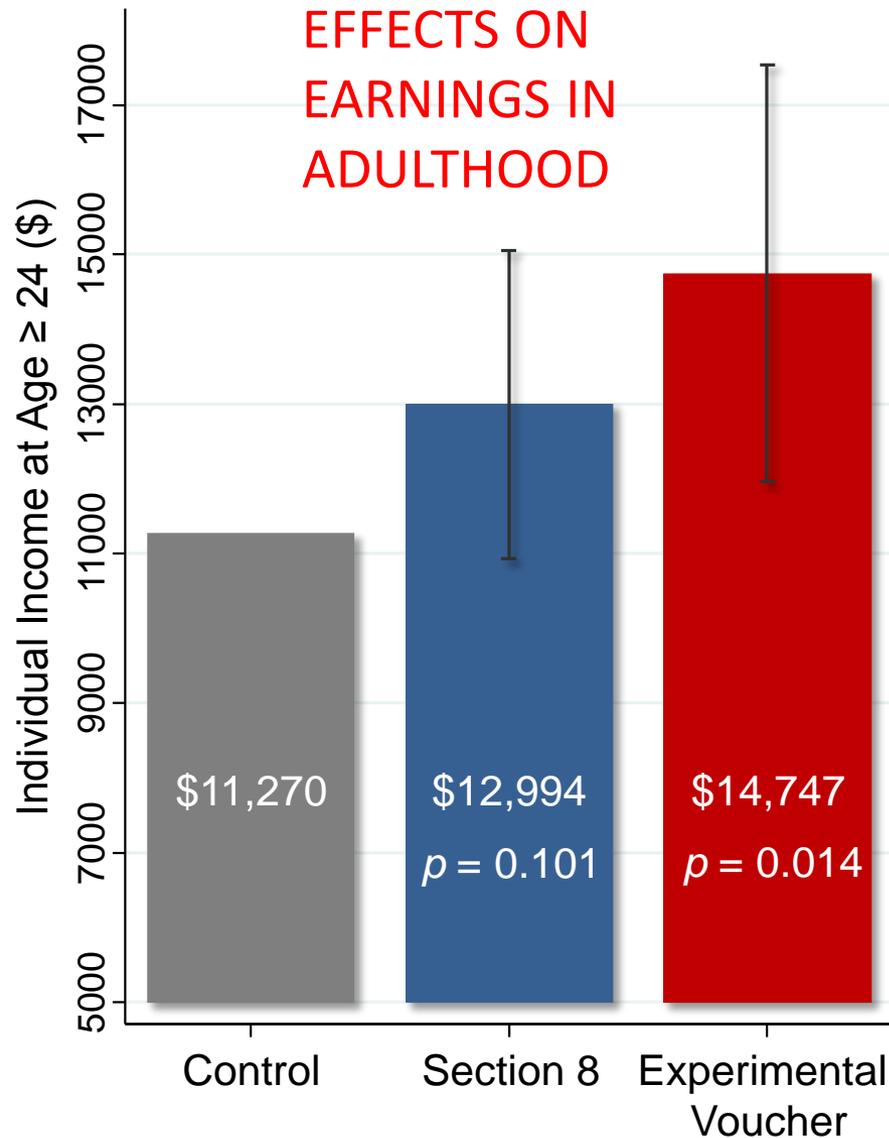
- DATA:
 - Individual earnings (W-2 earnings + self-employment income), from 2008-12, restricting to years in which child is 24 or older
 - College attendance
 - Neighborhood of residence in adulthood
 - Fertility (for women)
- Evaluate impacts if move is at age <13 or >13 . Also estimate a model linear in age at move (not powered up to do much more than that)

Impacts of MTO on Children Below Age 13 at Random Assignment

(a) Individual Earnings (ITT)

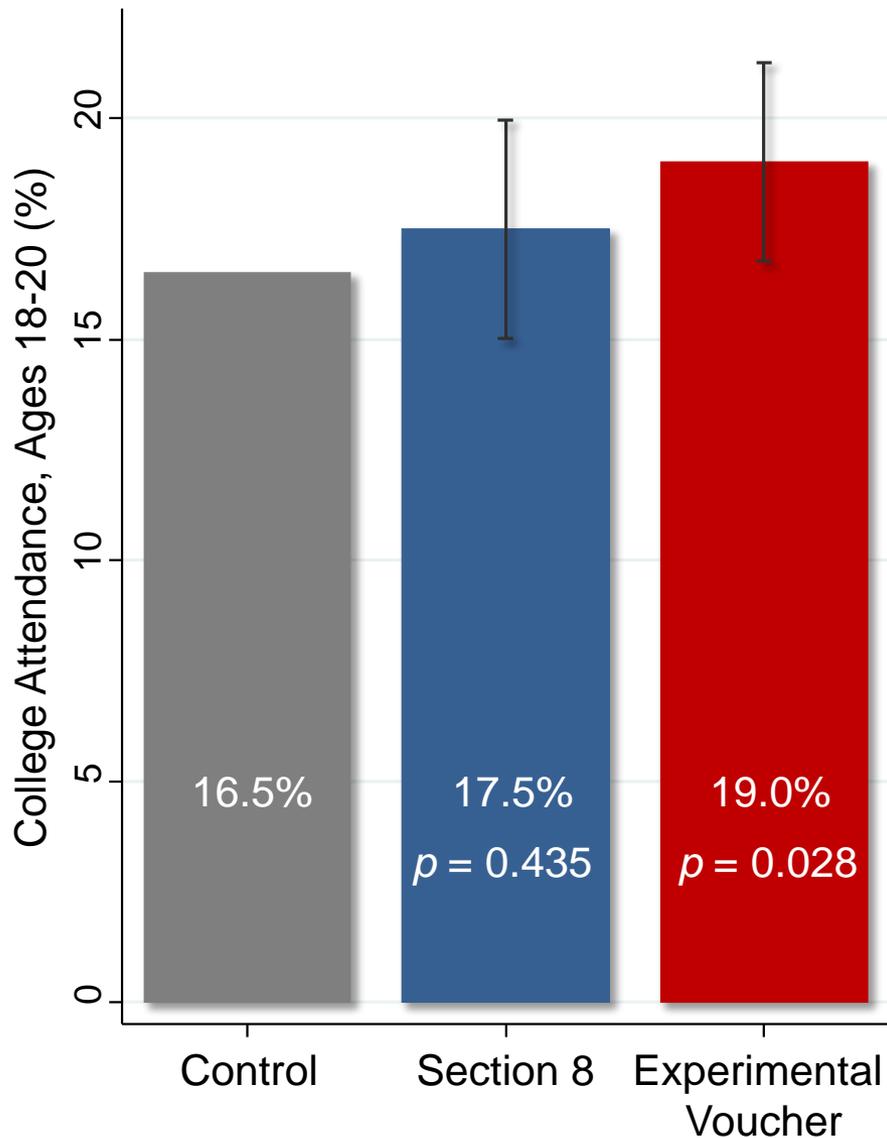


(b) Individual Earnings (TOT)

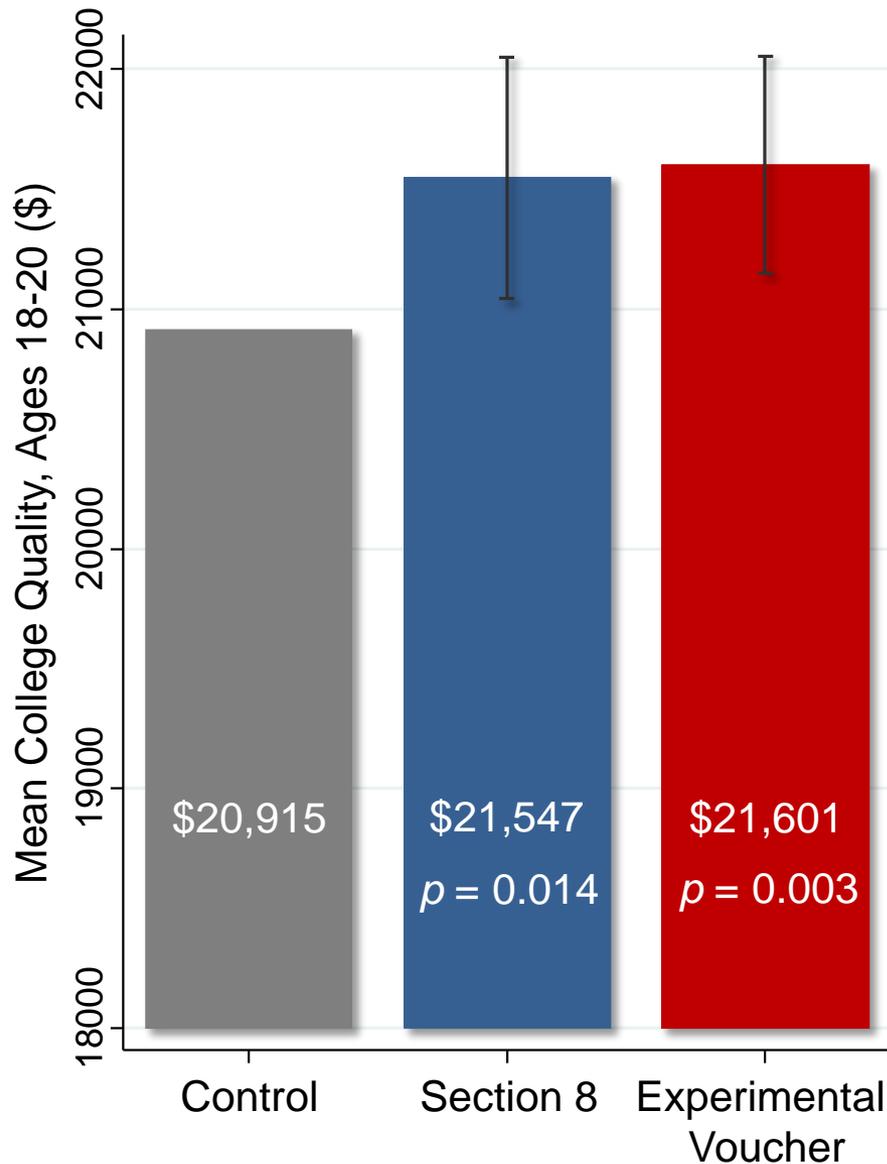


Impacts of MTO on Children Below Age 13 at Random Assignment

(a) College Attendance (ITT)

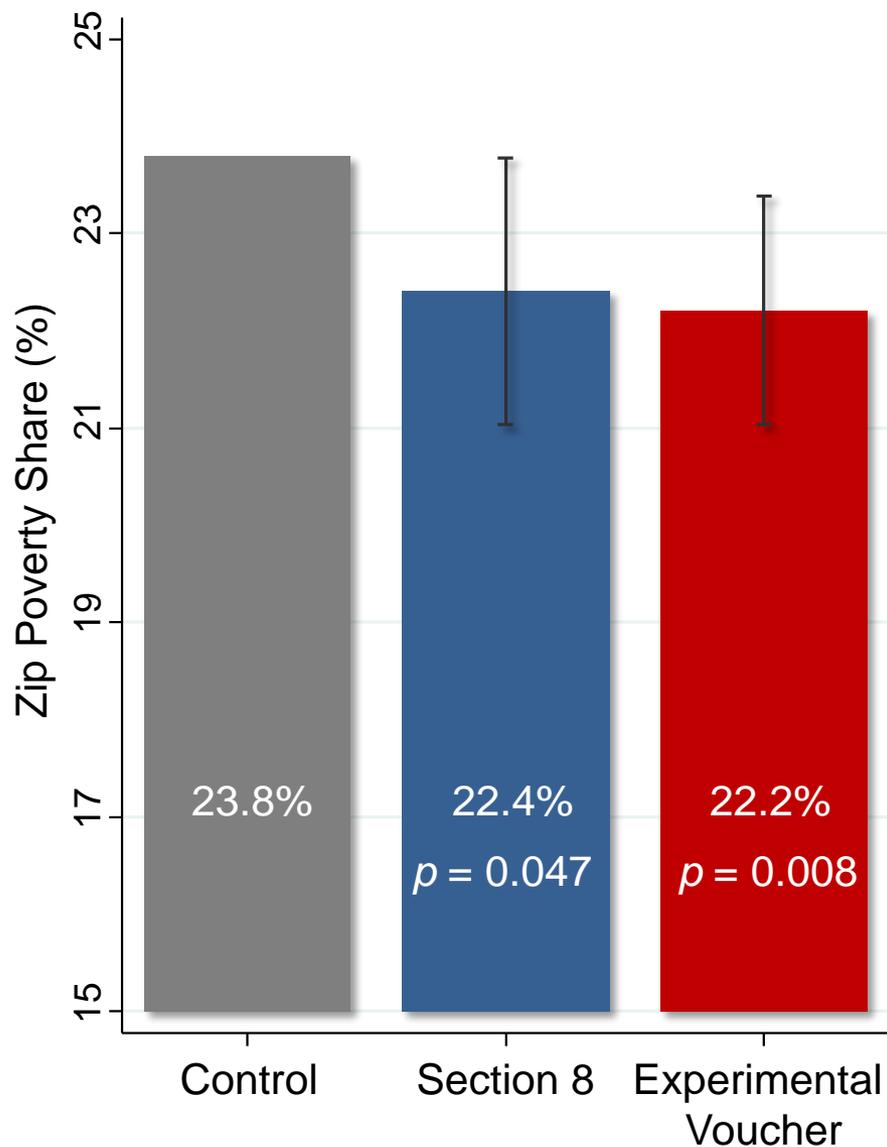


(b) College Quality (ITT)

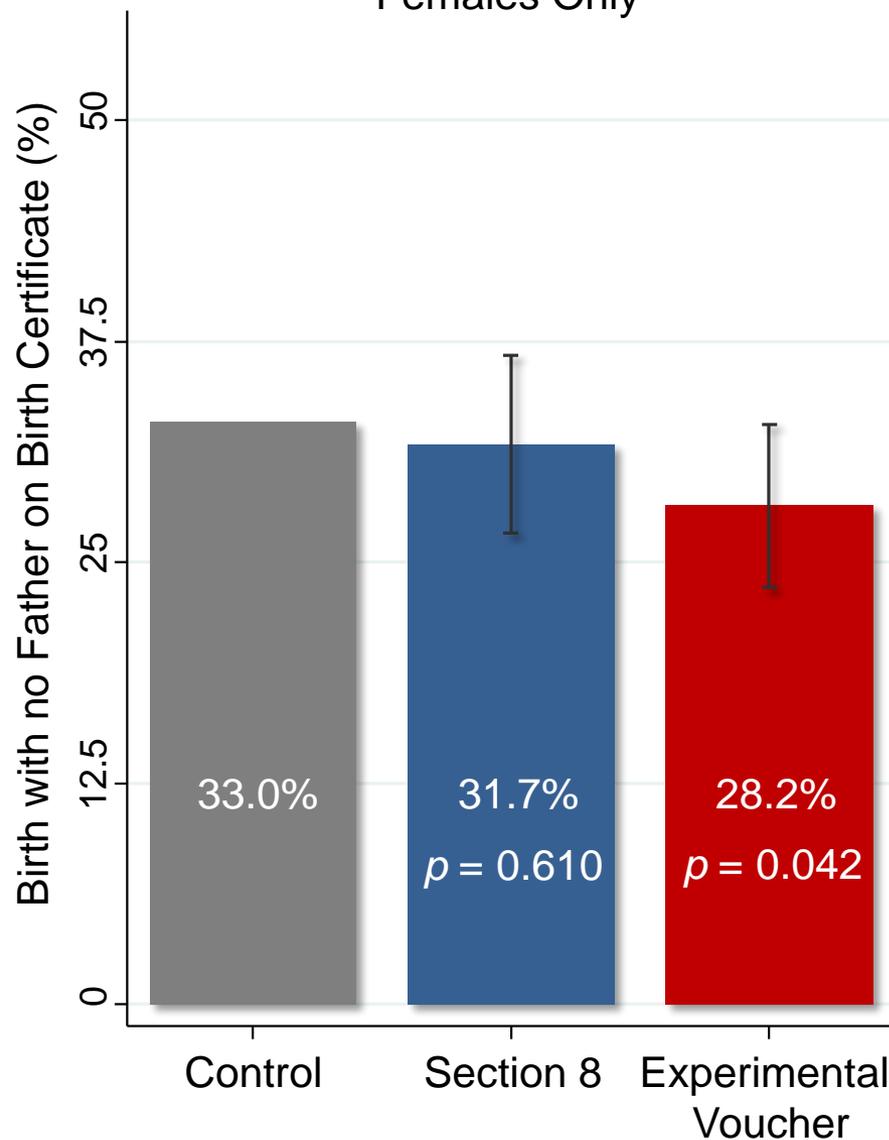


Impacts of MTO on Children Below Age 13 at Random Assignment

(a) ZIP Poverty Share in Adulthood (ITT)

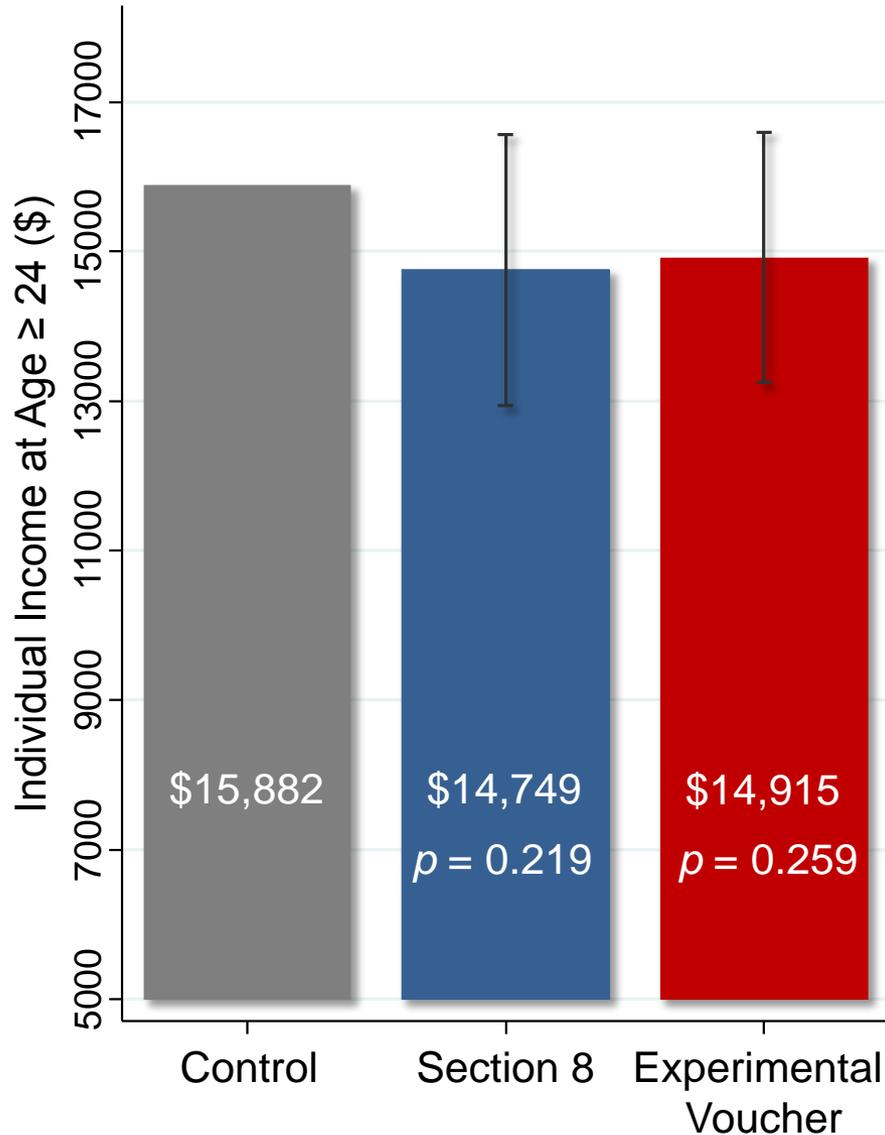


(b) Birth with no Father Present (ITT)
Females Only

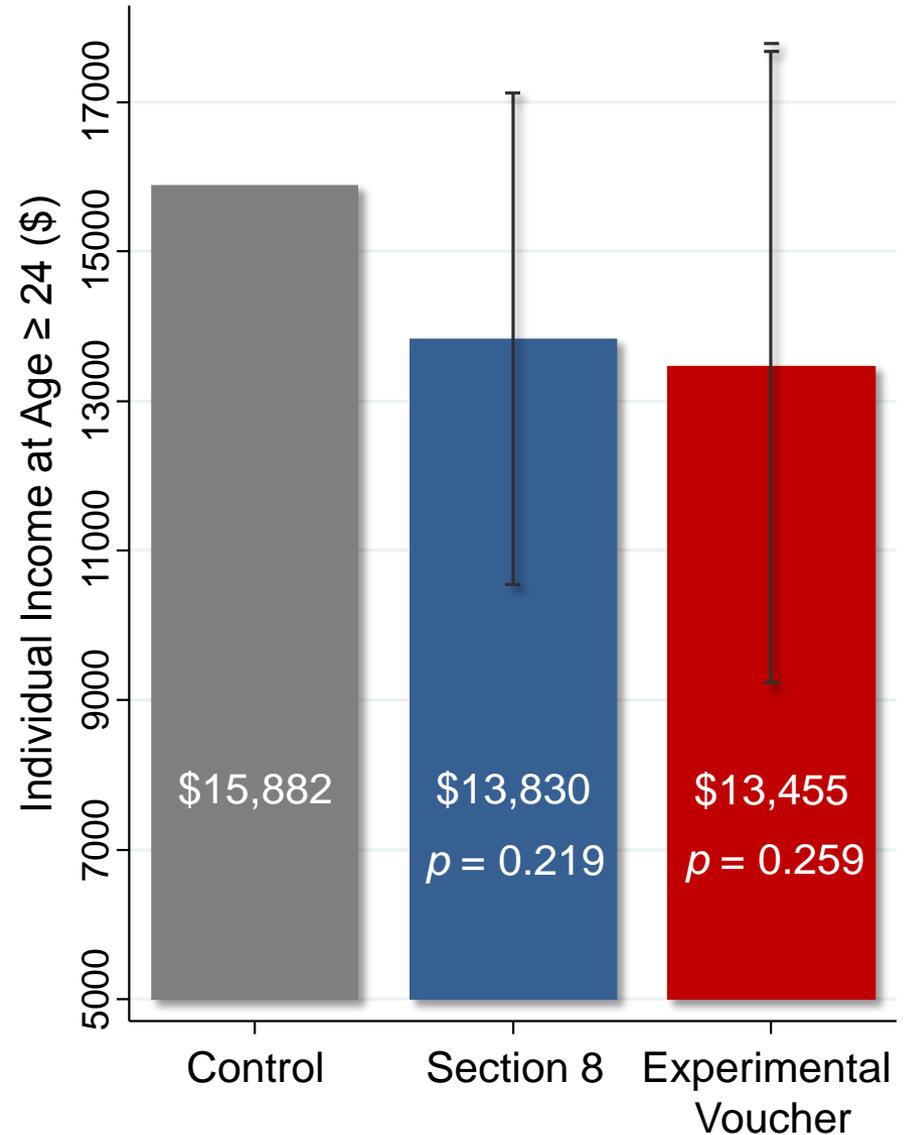


Impacts of MTO on Children Age 13-18 at Random Assignment

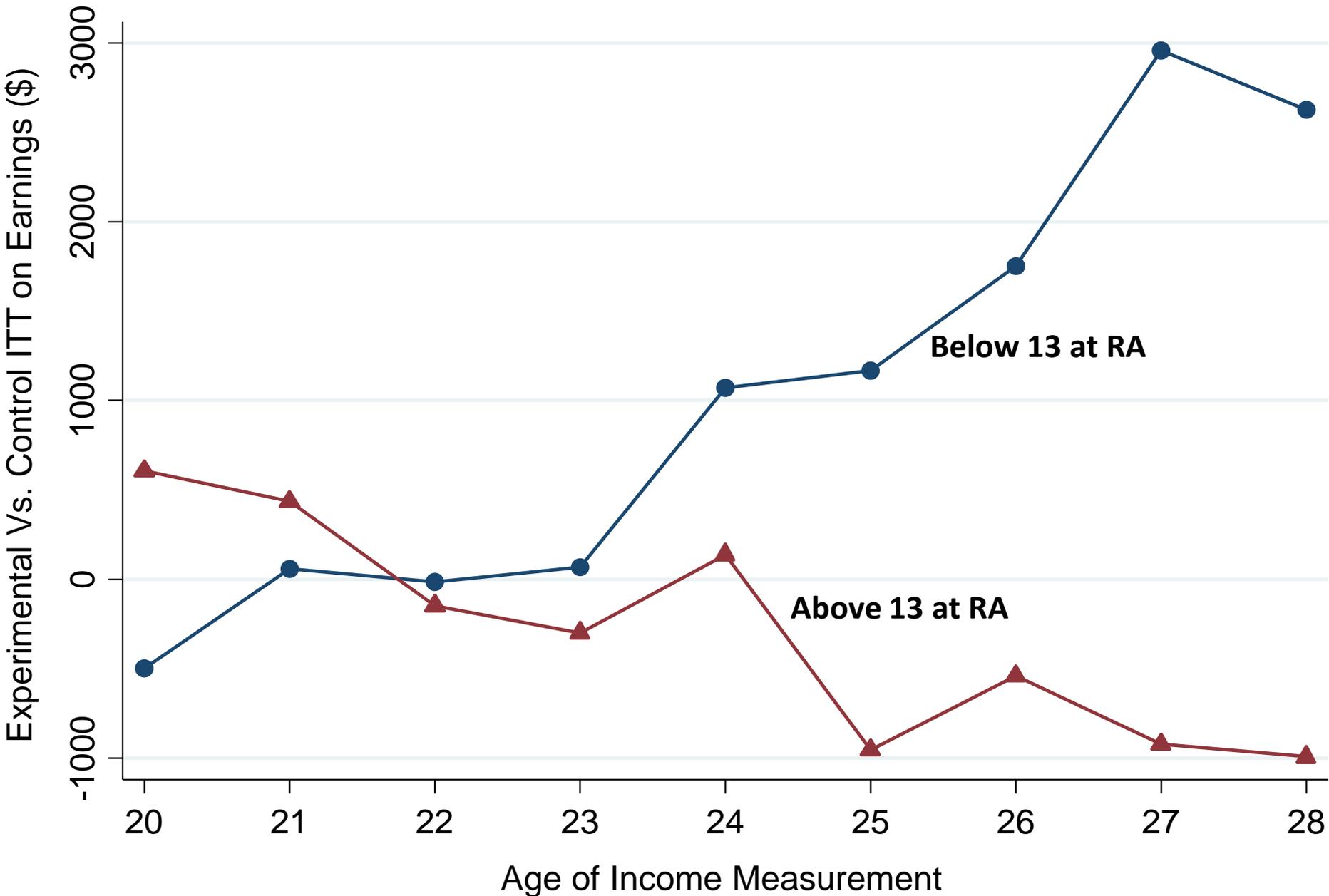
(a) Individual Earnings (ITT)



(b) Individual Earnings (TOT)

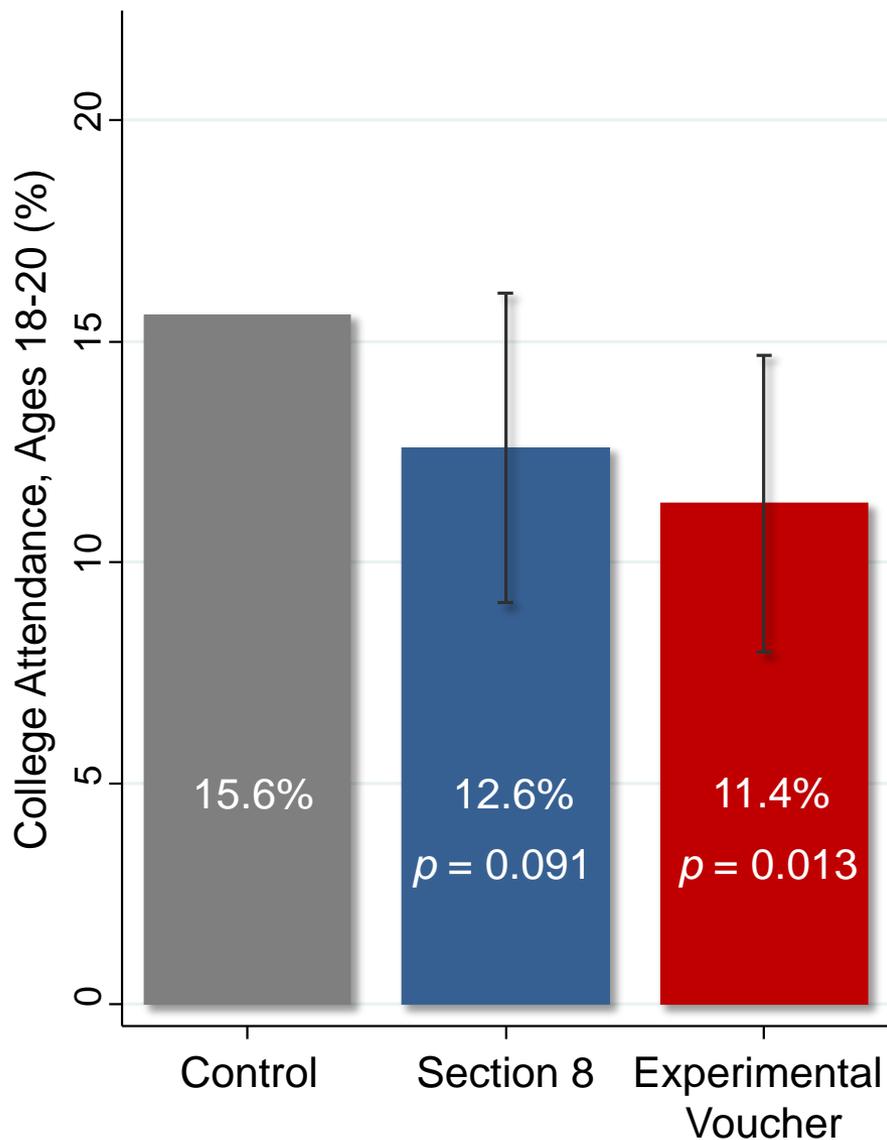


Impacts of Experimental Voucher by Age of Earnings Measurement

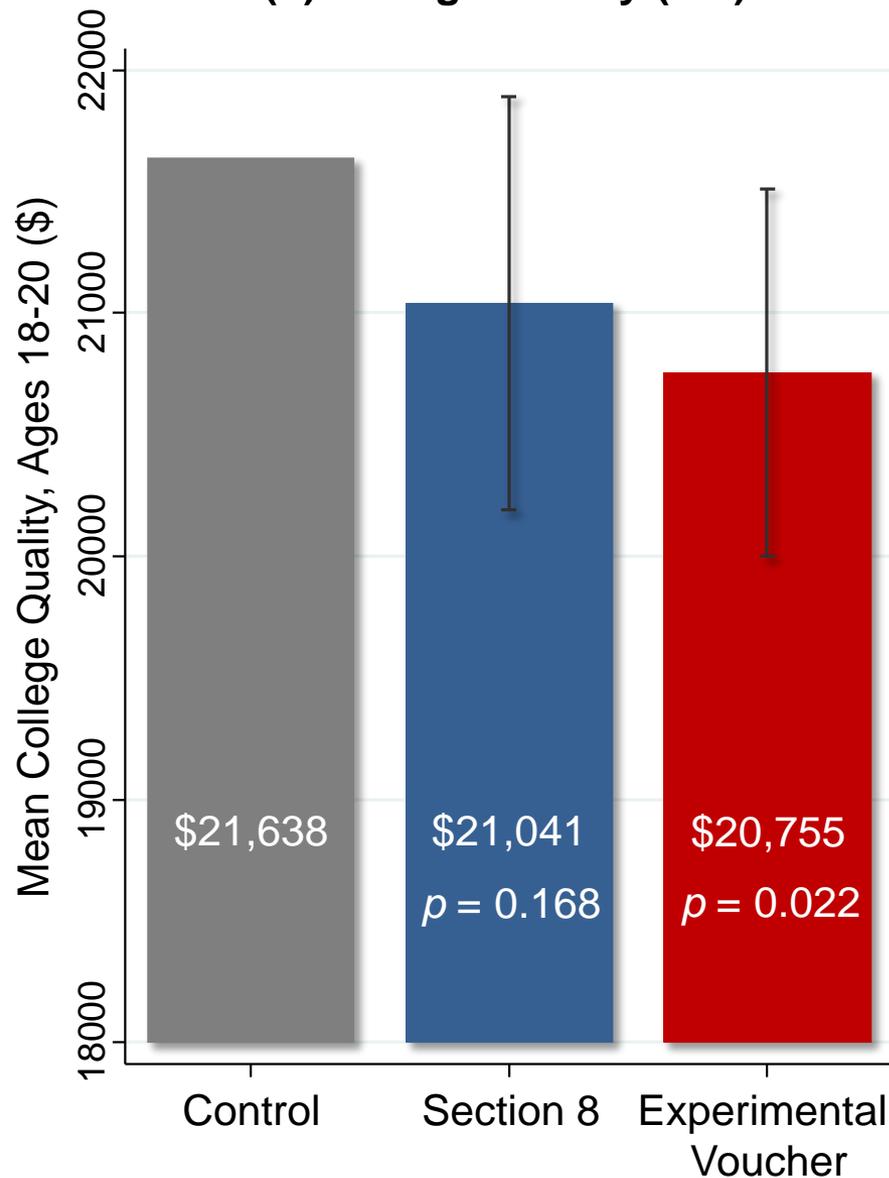


Impacts of MTO on Children Age 13-18 at Random Assignment

(a) College Attendance (ITT)

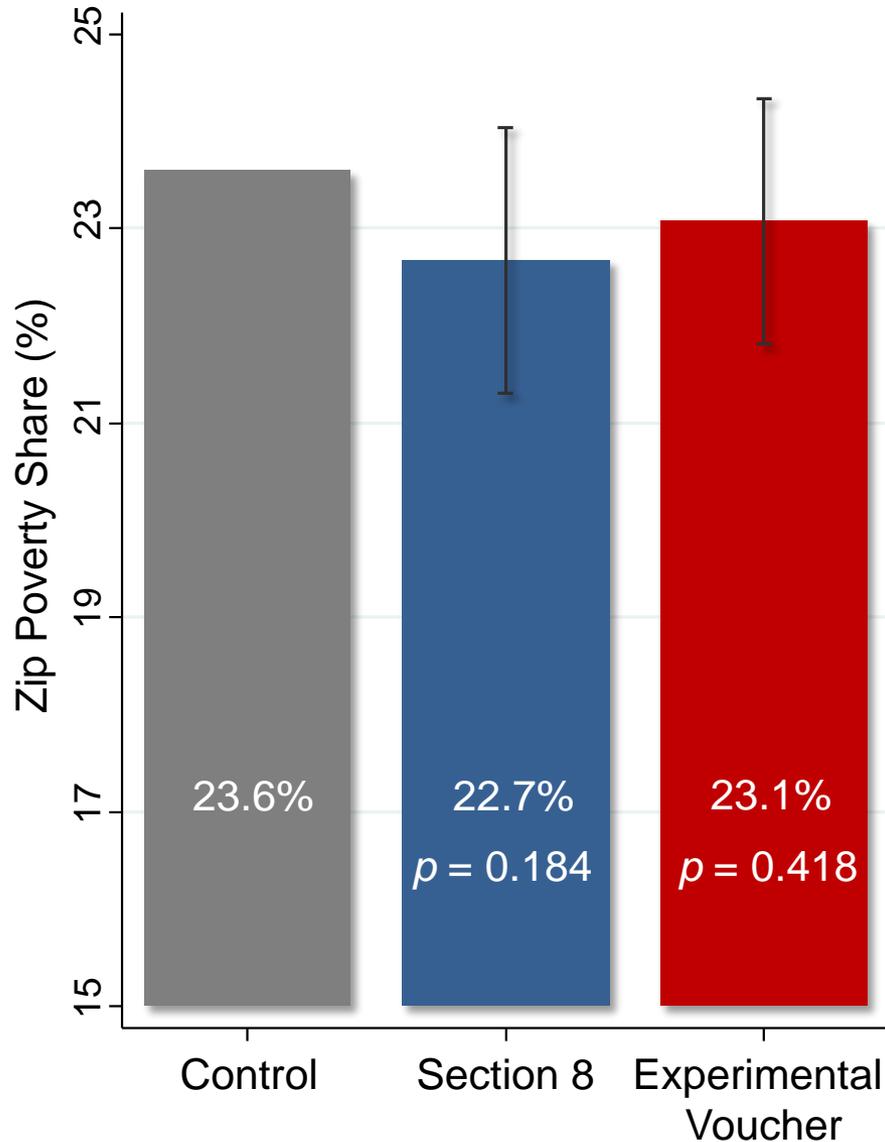


(b) College Quality (ITT)

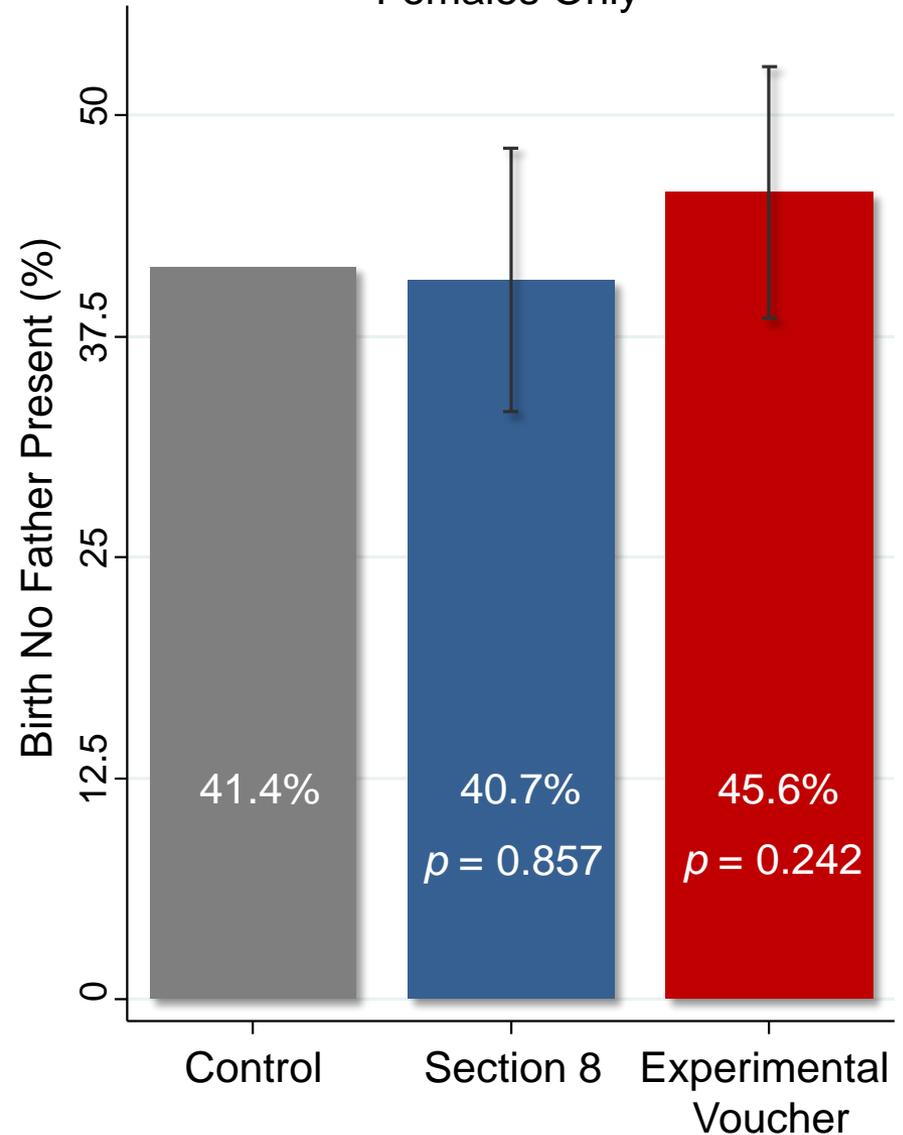


Impacts of MTO on Children Age 13-18 at Random Assignment

(a) ZIP Poverty Share in Adulthood (ITT)

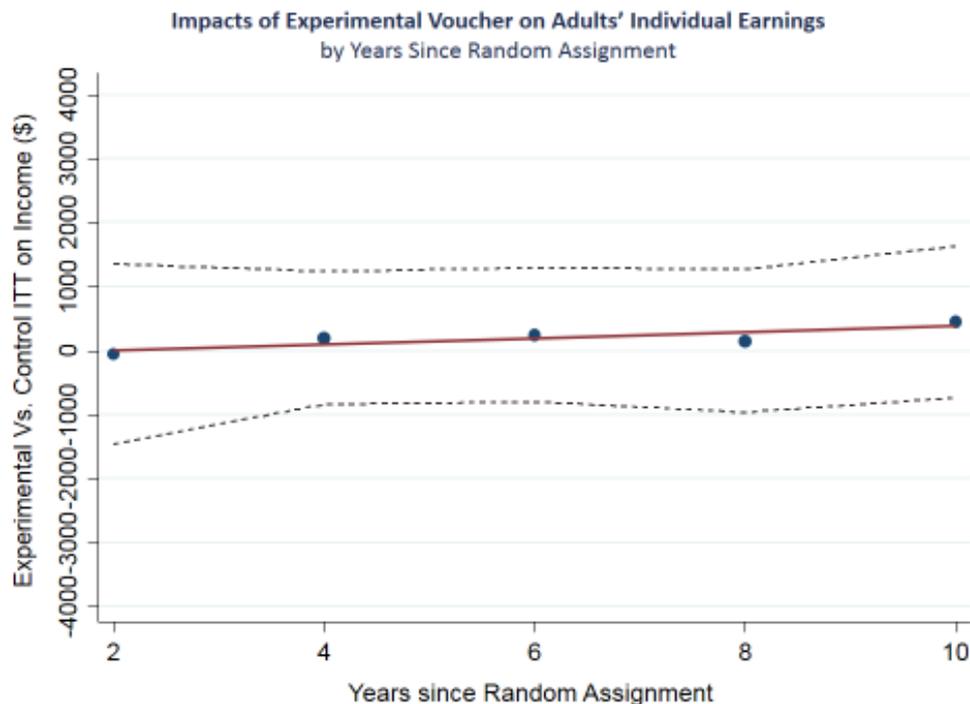


(b) Birth with no Father Present (ITT)
Females Only



Treatment Effects on Adults

- Little effect on adult economic outcomes



- But previous research evaluating the MTO experiment has found that moving to lower-poverty areas greatly improved the mental health, physical health, and subjective well being of adults as well as family safety

Policy Lessons from Voucher Studies

- Unconditional vouchers mean an income transfer to the household but not necessarily an improvement in neighborhood or schools. Not much evidence for improvements for children or parents
- However, conditional vouchers requiring locating in a low poverty neighborhood do generate improvements
- BUT moving a child early is key. Moving later looks to create transition costs that are negative

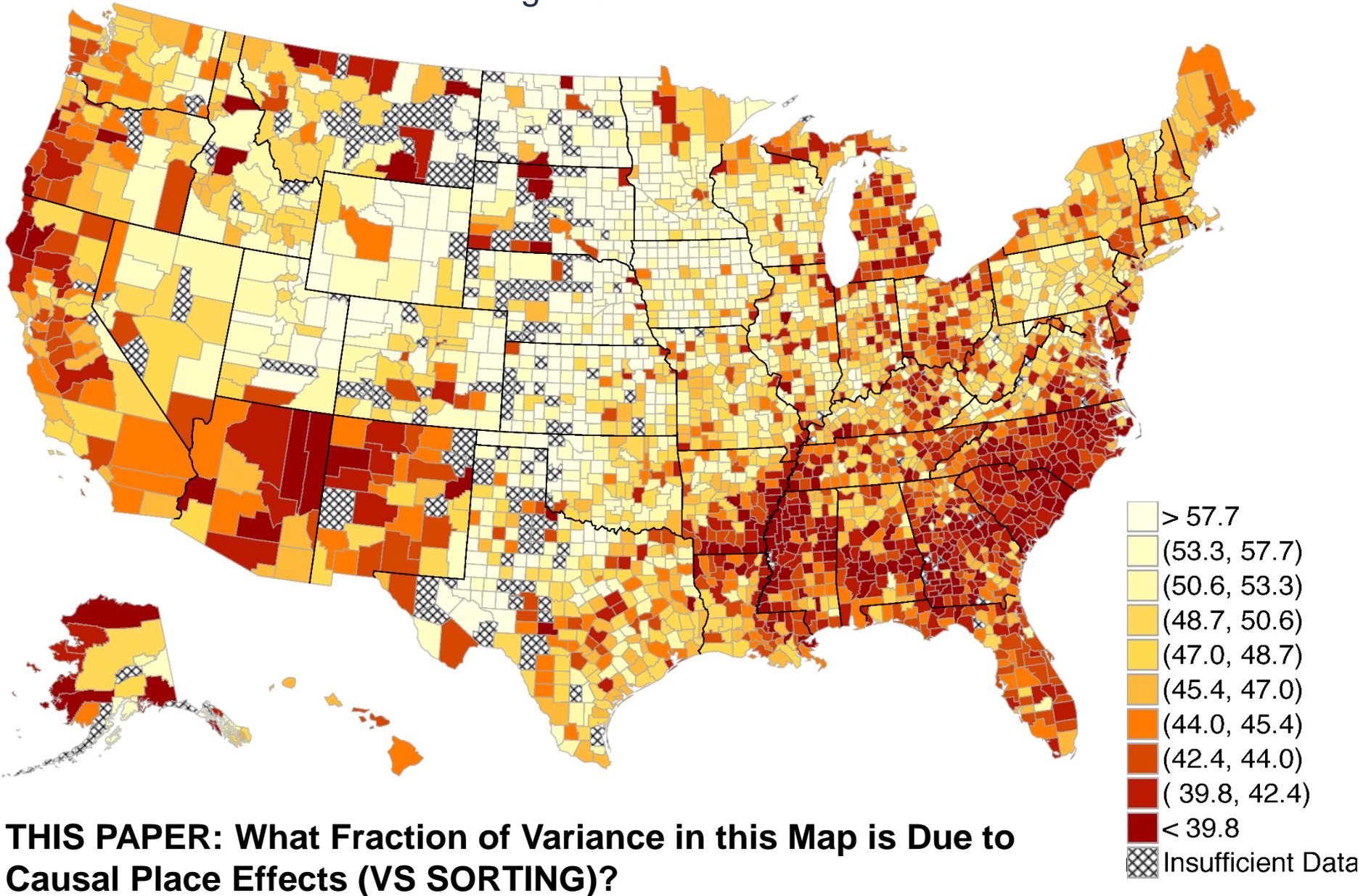
The Impacts of Neighborhoods on Intergenerational Mobility: Childhood Exposure Effects and County-Level Estimates, Chetty & Hendren

- More broadly: they explore the importance of PLACE
- Backstory: Long standing interest by sociologists and economists on neighborhood effects. Challenge is separating the causal effect of PLACE from SORTING across places. Intuitively it seems that place should matter, but the literature has not really demonstrated that.
- What this paper does that is new
 1. Uses amazing data that is powered up to study the problem in a way that we have never had before: 50 M children in IRS data vs 5,000 in the PSID
 2. Identify the effect of place by using MOVERS
 3. Focus on the AGE OF EXPOSURE (how old the child is when they move)
 4. And the COOL MAPS and county rankings help

- Part 1: Childhood Exposure Effects
 - Estimate fraction of variance across areas due to causal effects of place
- Part 2: Causal Estimates by County
 - Decompose variation across areas into sorting and causal effect of each county
- Data: 1996-2012 tax returns, children linked to parents
 - Sample: children in 1980-1993 birth cohorts (19-32 by end of period) → 50 million children
 - Movers sample: 1 origin and 1 destination CZ and stay in the destination for at least 2 years → 6.9M movers, 3.2M observed at ages 24 and above
 - Also move more than 100 miles from their prior location; and restrict to CZ's with a population above 250,000
- Findings: neighborhoods have significant childhood exposure effects
 - Every year spent in a better environment improves long-term outcomes

The Geography of Intergenerational Mobility in the United States

Predicted Income Rank at Age 26 for Children with Parents at 25th Percentile



Statistical model

- Key object: childhood **exposure effects**
 - Exposure effect at age m : impact of spending year m of childhood in an area where permanent residents' outcomes are 1 percentile higher (in national distribution)
- Start with ideal experiment: randomly assign children to new neighborhoods d starting at age m for the rest of childhood
 - Regress income in adulthood (y_i) for the moved-child on mean outcomes of residents of destination county (\bar{y}_{pds}), p=predicted, d=destination county, s=birth cohort
 - m : child lives in origin area o until age $m-1$ then moves to destination area d where they are from age m until end of childhood

$$y_i = \alpha + \beta_m \bar{y}_{pds} + \epsilon_i \quad (1)$$

- Exposure effect at age m is (or change in betas across m)

$$\beta_{m-1} - \beta_m$$

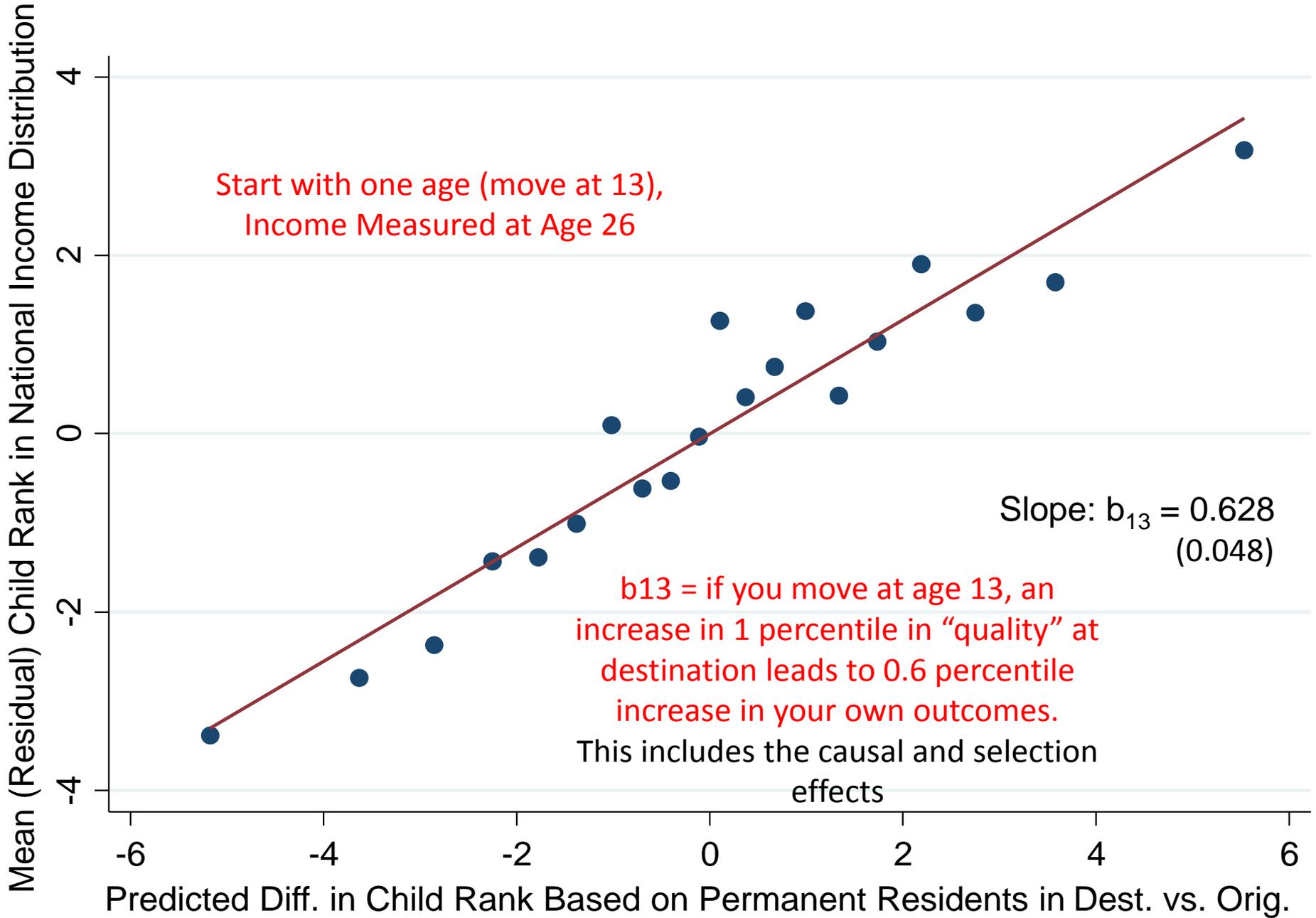
Statistical model

- But we don't have an experiment, and those that move are different from those that don't
- Regress child's income rank at age 26 y_i on predicted outcome of permanent residents in destination:

$$y_i = \alpha_{qos} + b_m \bar{y}_{pds} + \eta_{1i}$$

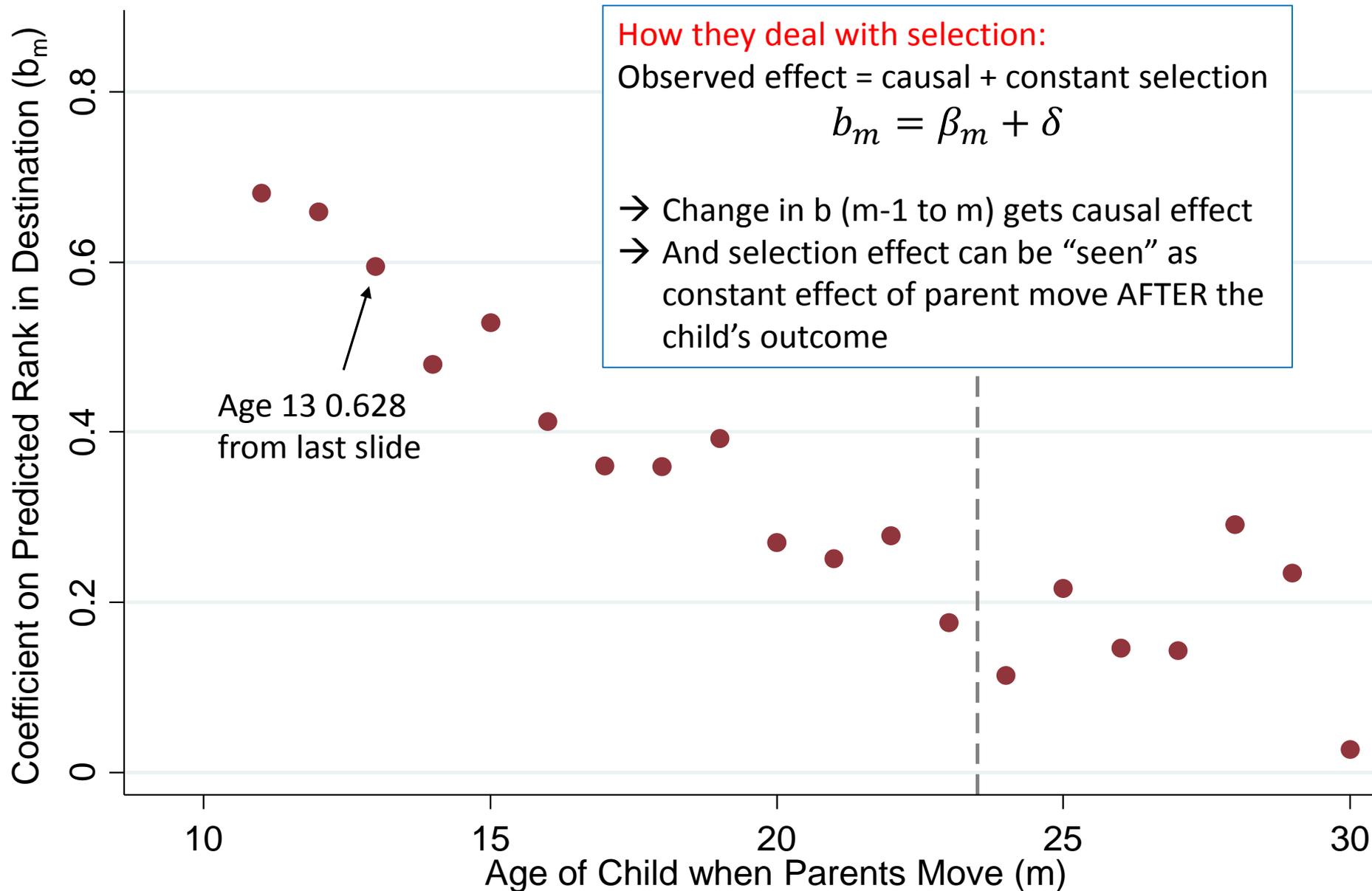
- Include parent decile (q) by origin (o) by birth cohort (s) fixed effects to identify b_m purely from differences in destinations
- They identify b_m by comparing the mean outcomes of children whose families start in the same area o and move to different areas d at a given age m.
- Assume: selection effects do not vary with age at move
 - Not obvious that this is a good assumption (more motivated parents move when the kid is young?). But they use many approaches to deal with this and the results are quite robust.

Movers' Outcomes vs. Predicted Outcomes Based on Residents in Destination



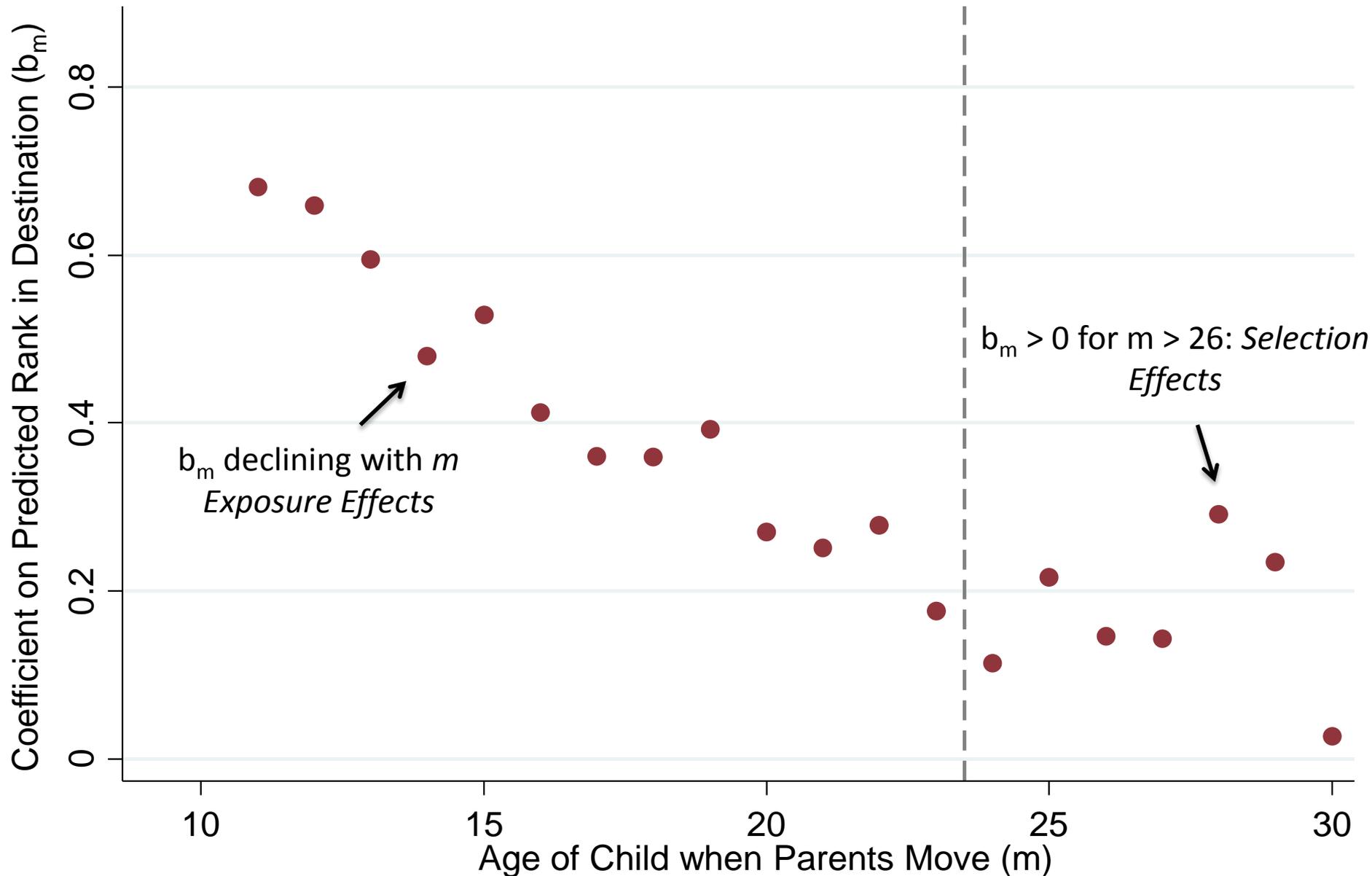
Movers' Outcomes vs. Predicted Outcomes Based on Residents in Destination

By Child's Age at Move, Income Measured at Ages 26



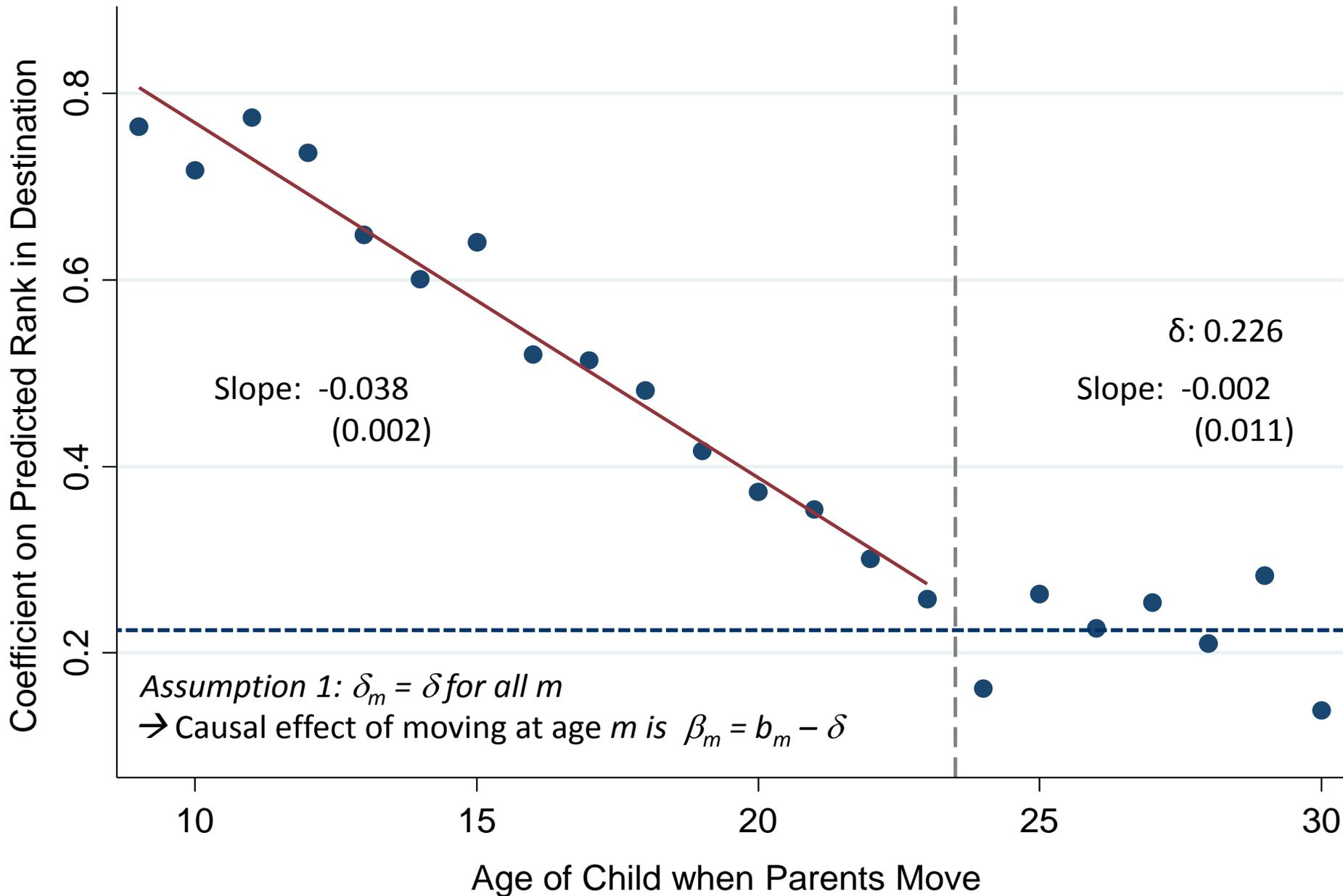
Movers' Outcomes vs. Predicted Outcomes Based on Residents in Destination

By Child's Age at Move, Income Measured at Ages 26



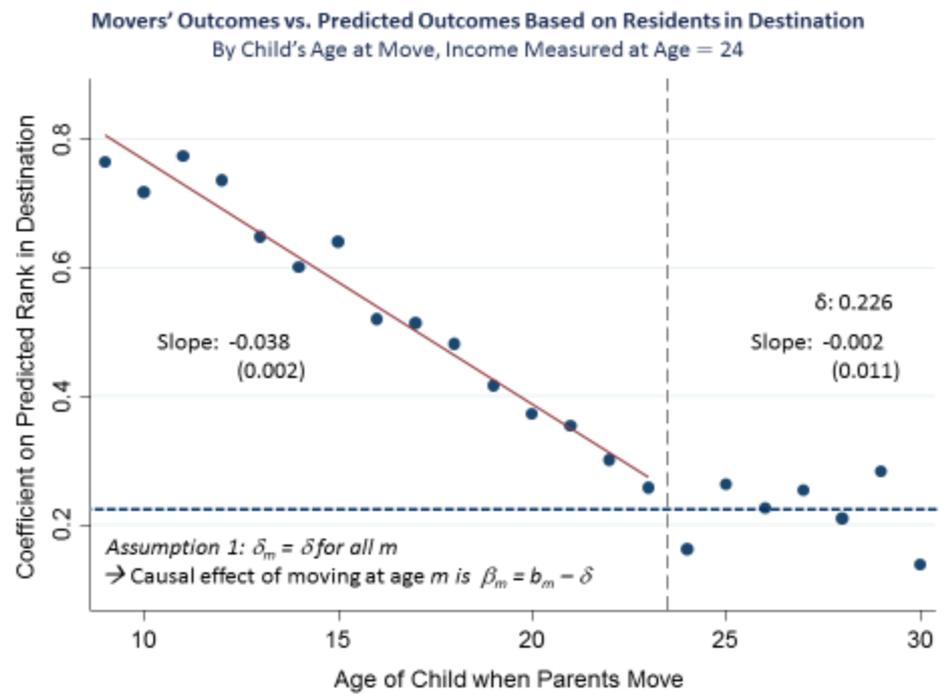
Movers' Outcomes vs. Predicted Outcomes Based on Residents in Destination

By Child's Age at Move, Income Measured at Age = 24



Stepping back, what does this show?

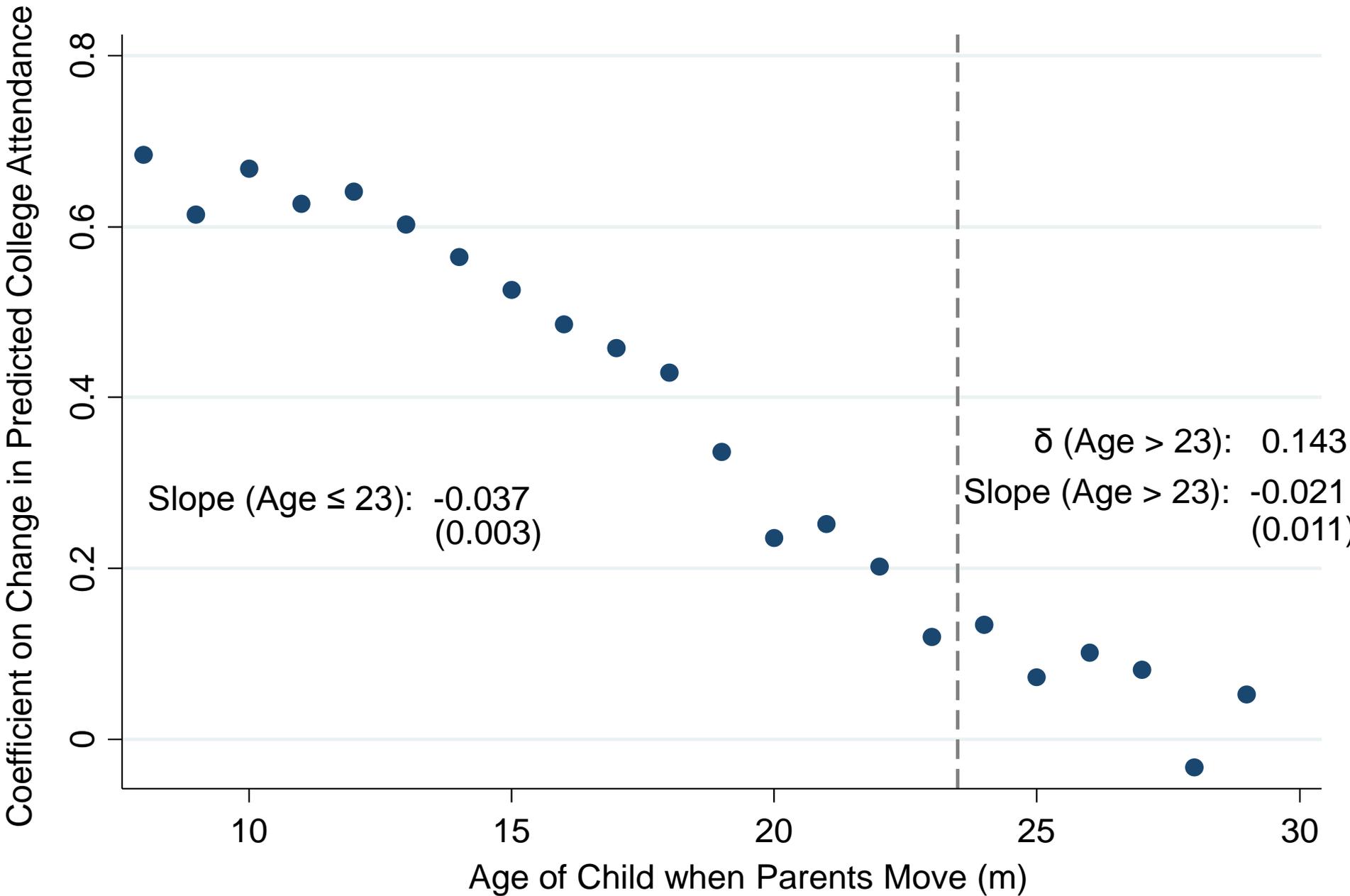
- Remarkable linear relationship between age of exposure and outcomes
- Slope = effect of exposure time to neighborhoods while growing up
- Magnitude: moving one year earlier to an area with 1 percentile better area outcome leads to a 0.038 percentile improvement in own outcomes
- p.s. this model is somewhat different than the last slide, with more precision (and fewer FE)
- Extrapolating over 20 years of childhood, implies that causal effects of place account for 70% of variance in intergen. mobility across areas



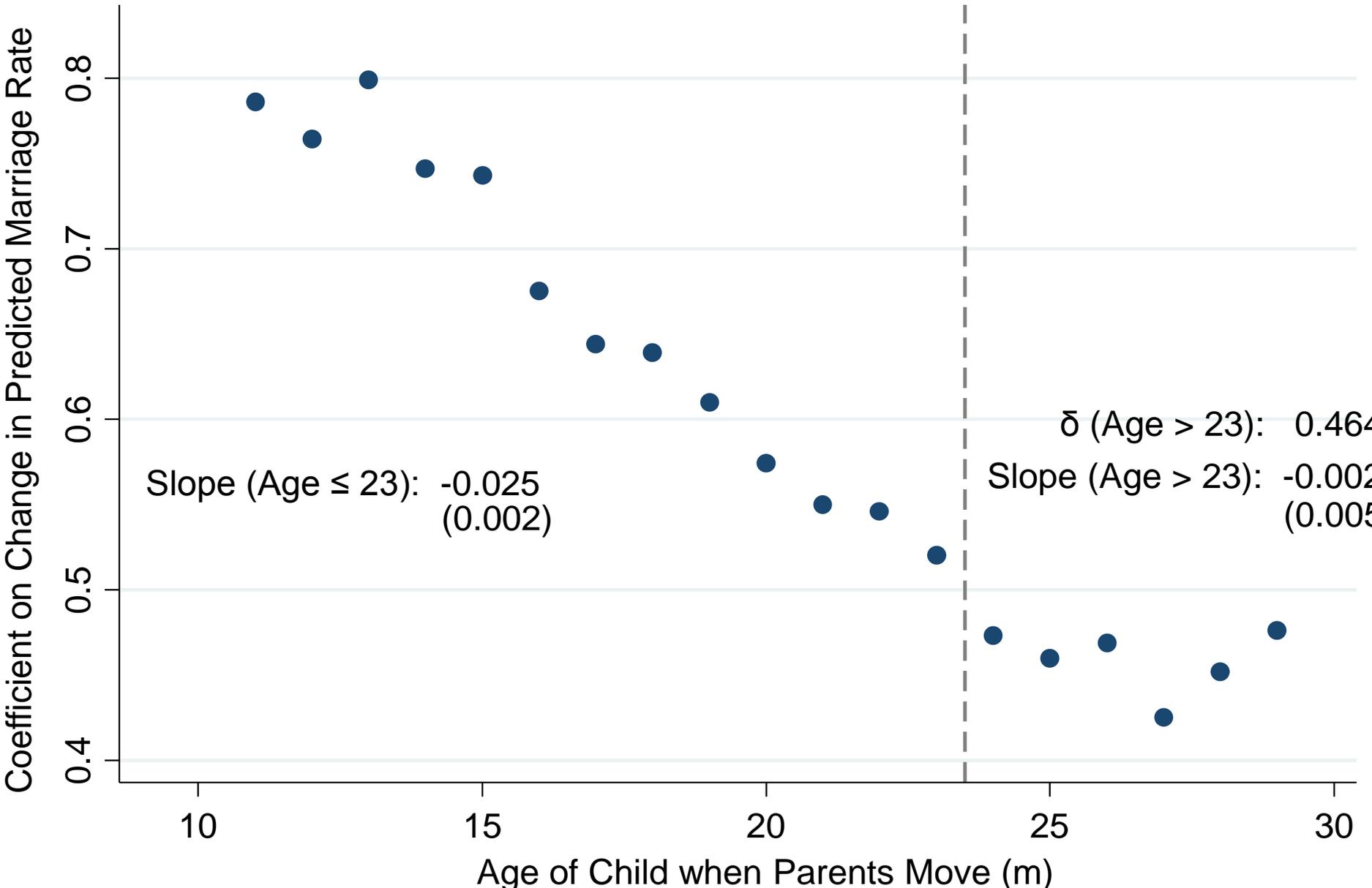
Neighborhood Effects on Other Outcomes

- College attendance (from 1098-T forms filed by colleges)
- Teenage birth (from birth certificate data)
- Teenage employment (from W-2 forms)
- Marriage

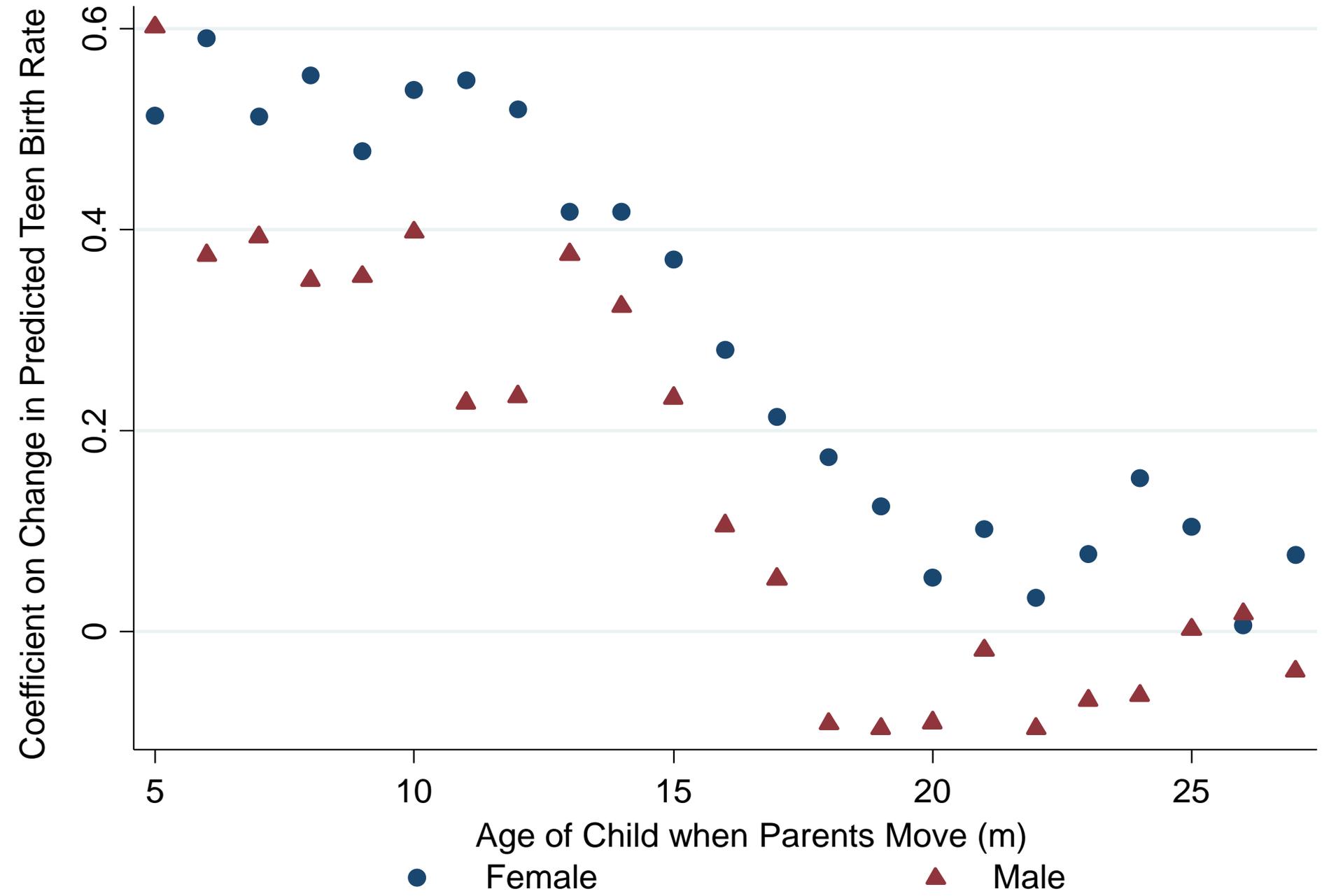
Exposure Effects for College Attendance, Ages 18-23



Exposure Effects for Marriage Rate, Age 26



Exposure Effects for Teenage Birth: Females and Males



- There is much much more to show try to establish that this IS the causal effects of place
- Family FE (siblings)
- Particular experiments of big shocks of place
- Much more

Part 2: Estimating Causal Effects of Each County

- Part 1 shows that neighborhoods matter, but it does not tell us which places are good and which are not
- Part 2: estimate causal effects of each county and CZ in the U.S. on children's earnings in adulthood
- Apply exposure-time design to estimate causal effects of each area in the U.S. using a fixed effects model
- Focus exclusively on movers, without using data on permanent residents
- Four steps:
 1. Estimate fixed effects of each county using movers
 2. Estimate variance components of latent variable model of nbhd. effects
 3. Construct optimal predictors (shrunk estimates) of each county's effect
 4. Characterize features of areas that produce high vs. low levels of mobility

Fixed Effects Model

- Estimate place effects $\mu = (\mu_1, \dots, \mu_N)$ using fixed effects for origin and destination interacted with exposure time:

$$y_i = \underbrace{(T_c - m)}_{\text{Exposure}} \left[\underbrace{\mu_d 1\{d(i) = d\}}_{\text{Dest. FE}} - \underbrace{\mu_o 1\{o(i) = o\}}_{\text{Orig. FE.}} \right] + \underbrace{\alpha_{odps}}_{\text{orig x Dest FE}} + \eta_i$$

- Place effects are allowed to vary linearly with parent income rank:

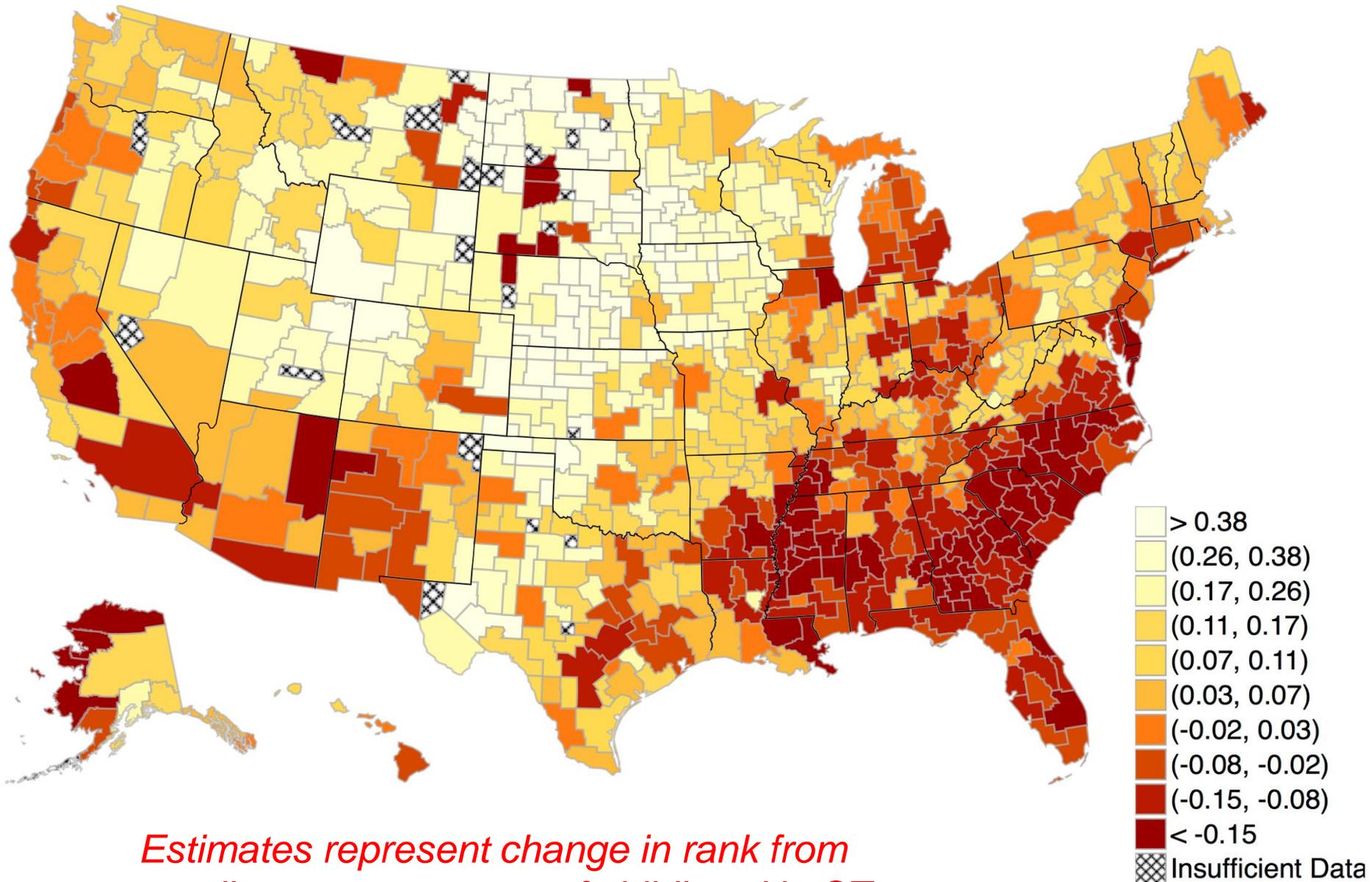
$$\mu_c = \mu_c^0 + \mu_c^P p$$

- Include origin-by-destination fixed effects (to isolate variation in exposure) and quadratic birth cohort controls (to eliminate time trends)

$$\alpha_{odps} = (\alpha_{od}^0 + \alpha_{od}^P p + \psi_{od}^0 s + \psi_{od}^1 s^2 + \psi_{od}^2 s p + \psi_{od}^3 s^2 p)$$

Predicted Exposure Effects on Child's Income Rank at Age 26 by CZ

For Children with Parents at 25th Percentile of Income Distribution



Estimates represent change in rank from spending one more year of childhood in CZ

Annual Exposure Effects on Income for Children in **Low-Income Families (p25)**

Top 10 and Bottom 10 Among the 100 Largest Counties in the U.S.

Top 10 Counties			Bottom 10 Counties		
Rank	County	Annual Exposure Effect (%)	Rank	County	Annual Exposure Effect (%)
1	Dupage, IL	0.80	91	Wayne, MI	-0.57
2	Fairfax, VA	0.75	92	Orange, FL	-0.61
3	Snohomish, WA	0.70	93	Cook, IL	-0.64
4	Bergen, NJ	0.69	94	Palm Beach, FL	-0.65
5	Bucks, PA	0.62	95	Marion, IN	-0.65
6	Norfolk, MA	0.57	96	Shelby, TN	-0.66
7	Montgomery, PA	0.49	97	Fresno, CA	-0.67
8	Montgomery, MD	0.47	98	Hillsborough, FL	-0.69
9	King, WA	0.47	99	Baltimore City, MD	-0.70
10	Middlesex, NJ	0.46	100	Mecklenburg, NC	-0.72

Exposure effects represent % change in adult earnings per year of childhood spent in county

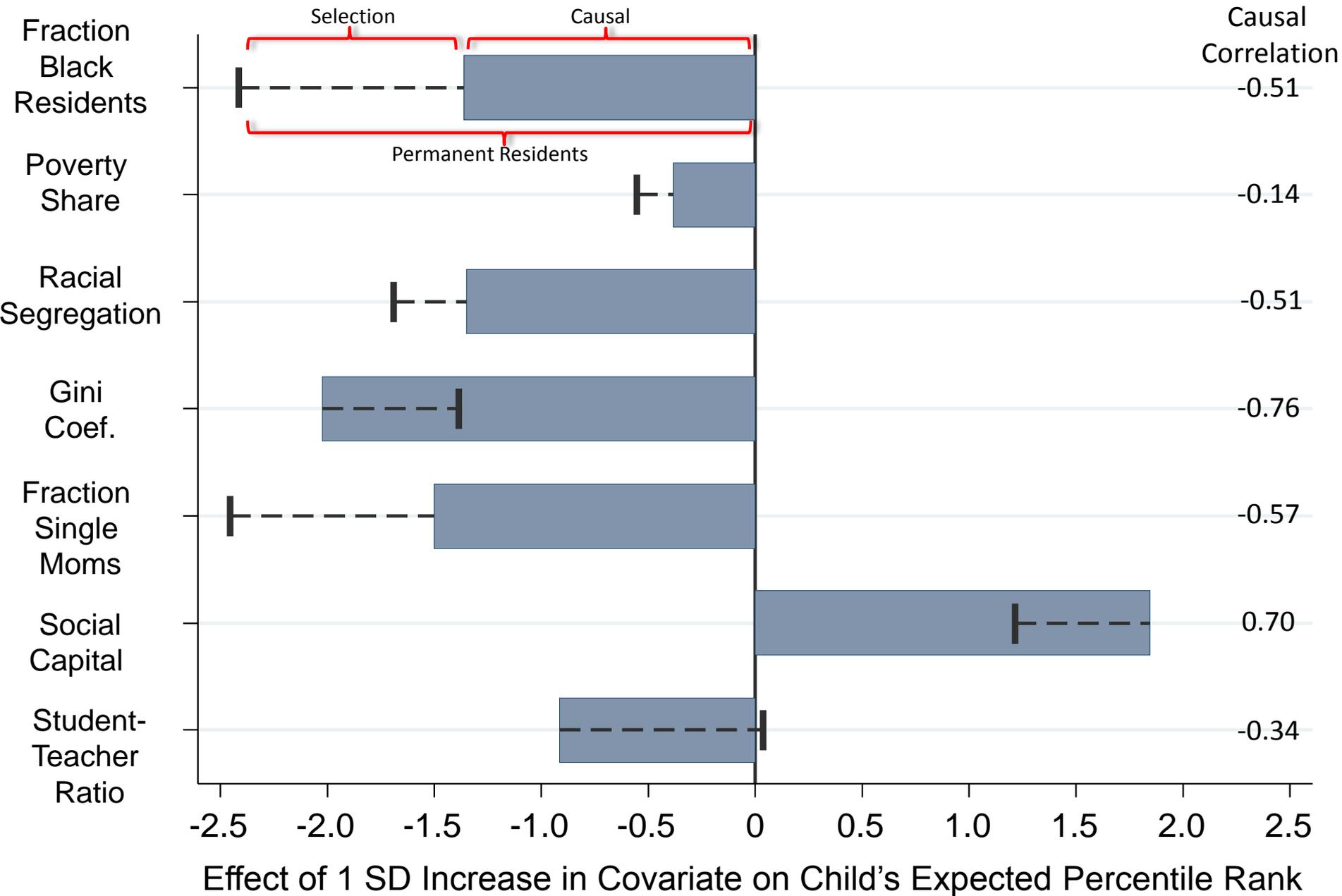
Annual Exposure Effects on Income for Children in **High-Income Families (p75)**

Top 10 and Bottom 10 Among the 100 Largest Counties in the U.S.

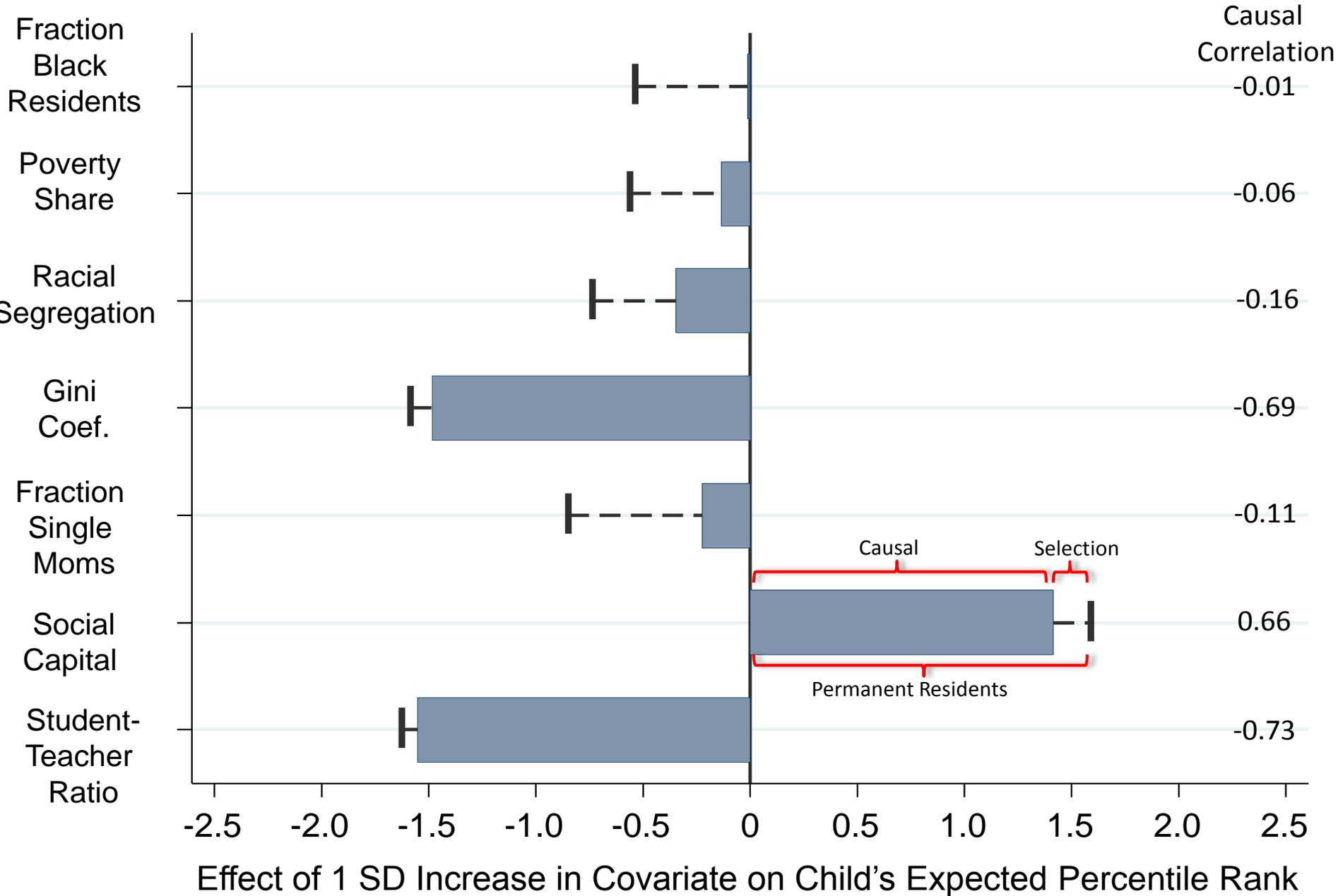
Top 10 Counties			Bottom 10 Counties		
Rank	County	Annual Exposure Effect (%)	Rank	County	Annual Exposure Effect (%)
1	Fairfax, VA	0.55	91	Hillsborough, FL	-0.40
2	Westchester, NY	0.34	92	Bronx, NY	-0.42
3	Hudson, NJ	0.33	93	Broward, FL	-0.46
4	Hamilton, OH	0.32	94	Dist. of Columbia, DC	-0.48
5	Bergen, NJ	0.31	95	Orange, CA	-0.49
6	Gwinnett, GA	0.31	96	San Bernardino, CA	-0.51
7	Norfolk, MA	0.31	97	Riverside, CA	-0.51
8	Worcester, MA	0.27	98	Los Angeles, CA	-0.52
9	Franklin, OH	0.24	99	New York, NY	-0.57
10	Kent, MI	0.23	100	Palm Beach, FL	-0.65

Exposure effects represent % change in adult earnings per year of childhood spent in county

Predictors of Exposure Effects For **Low-Income Children (p25)** at the CZ Level



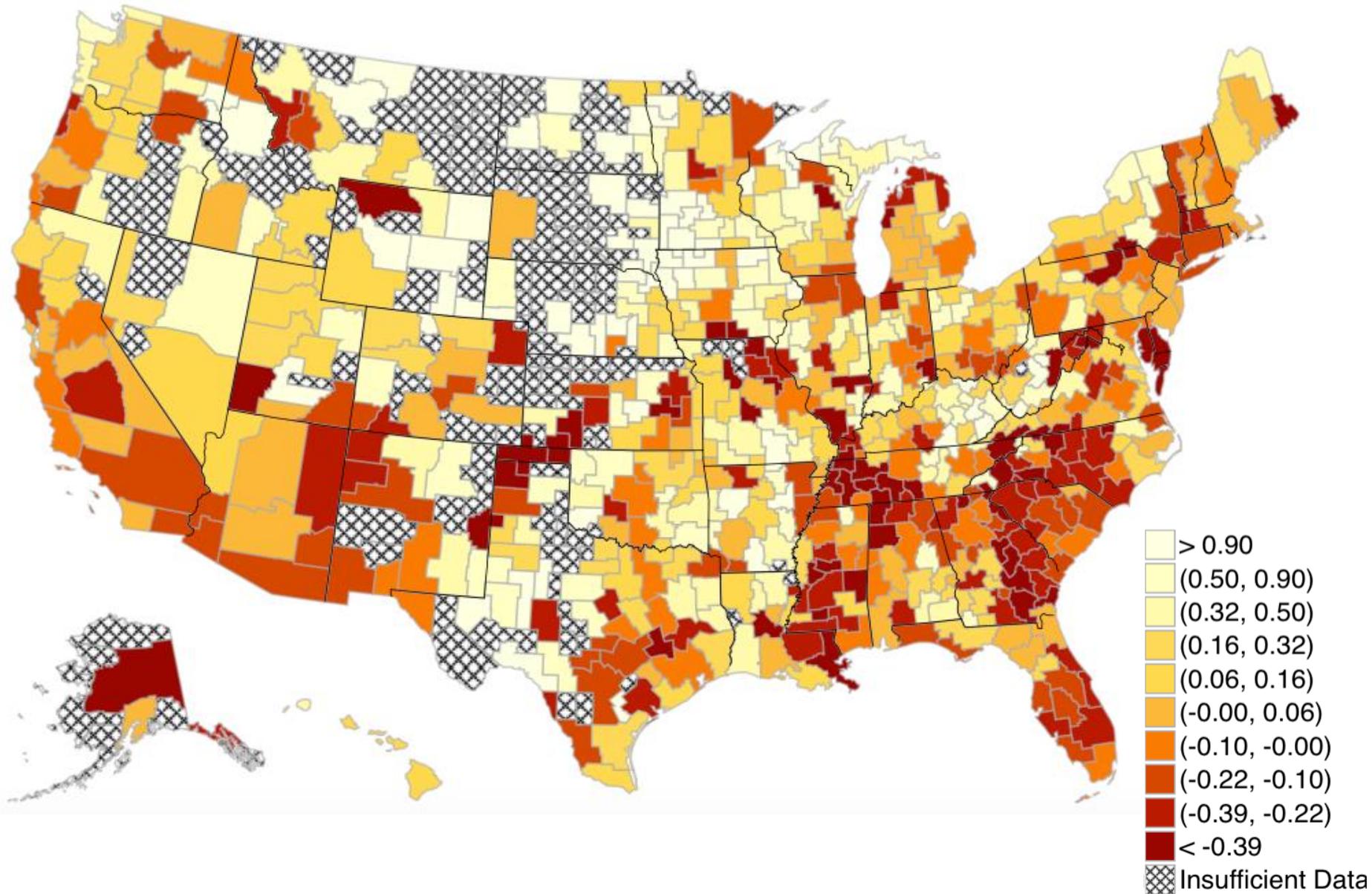
Predictors of Exposure Effects For **High Income Children (p75)** at the CZ Level



Some Policy Lessons

- How can we improve neighborhood environments for disadvantaged youth?
 1. Short-term solution: Provide targeted housing vouchers at birth conditional on moving to better (e.g. mixed-income) areas
 - But how much can this really be scaled up? Where will everyone go? What will happen to origin areas?
 2. Long-term solution: improve neighborhoods with poor outcomes, concentrating on factors that affect children
 - This seems like a heavy lift, but this work is the first step to highlighting the fact that place does matter. May seem obvious but had not been established so convincingly before.
- Hugely influential work in policy circles

CZ Fixed Effect Estimates for Child's Income Rank at Age 26 For Children with Parents at 25th Percentile of Income Distribution



Note: Estimates represent annual exposure effects on child's rank in income distribution at age 26

Poverty, the Social Safety Net and the Great Recession

Hilary Hoynes

PP290

Overview

- The Great Recession led to massive increases in unemployment, and the recovery has been slow and weak
- The social safety net responded with Unemployment Benefit extensions to 99 weeks and 1 in 7 receiving Food Stamps
- Here I examine the performance of the social safety net in protecting the disadvantaged population in the Great Recession
- I use this “stress test” identify the *holes* in the safety net moving forward

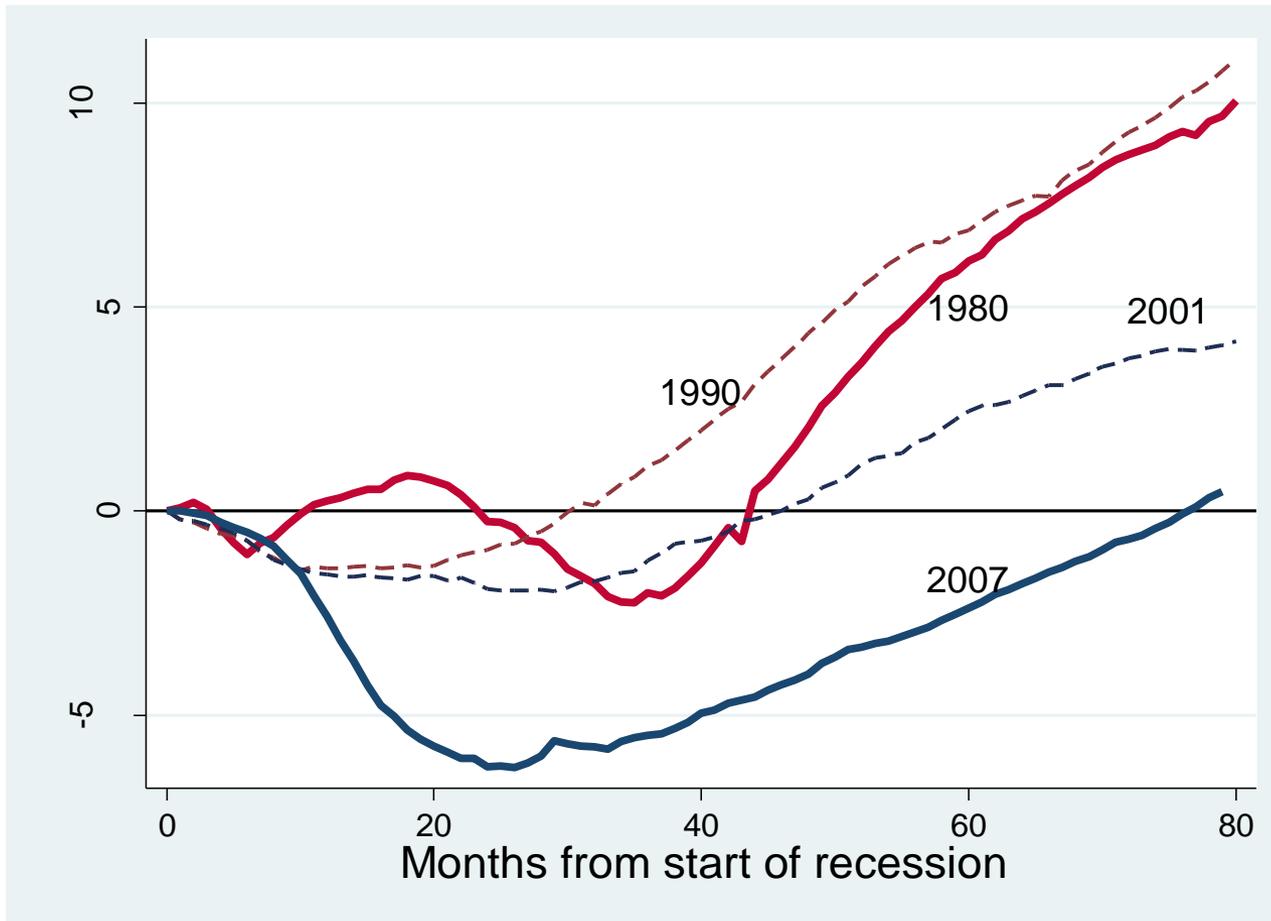
Roadmap

1. The Great Recession in the U.S.
2. U.S. safety net programs and the stimulus
3. How did the safety net respond?
4. Effects of the GR on poverty and the most vulnerable
5. Lessons moving forward given the “stress test” of the Great Recession
6. Conclusion

Roadmap

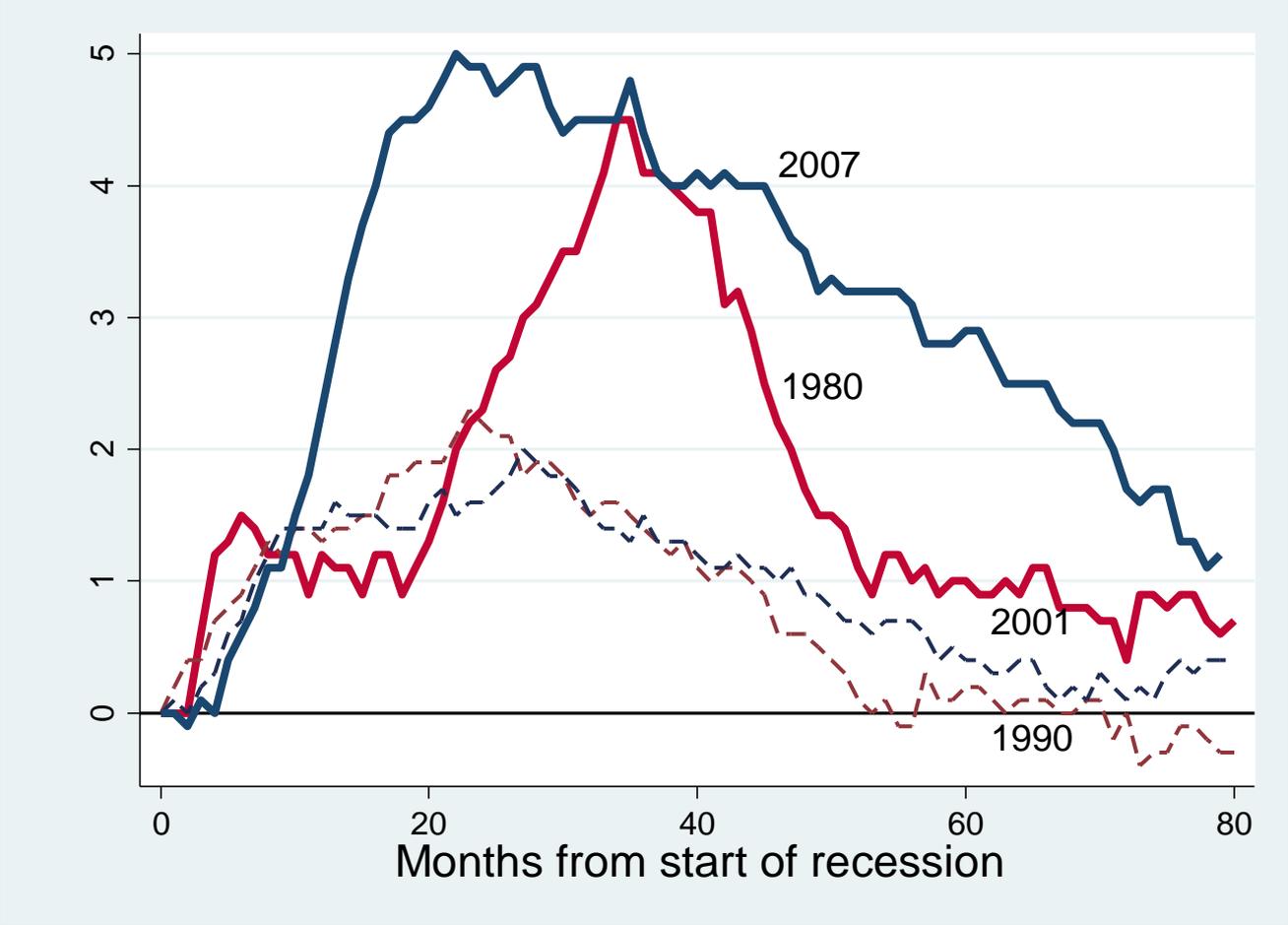
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Employment (seasonally adjusted) since peak



Source: Hoynes, Miller and Schaller “Who Suffers in Recessions”, *Journal of Economic Perspectives* 2012 (updated with data through 2013)

Unemployment (seasonally adjusted) since peak



Source: Hoynes, Miller and Schaller “Who Suffers in Recessions”, *Journal of Economic Perspectives* 2012 (updated with data through 2013)

Who was impacted by the Great Recession

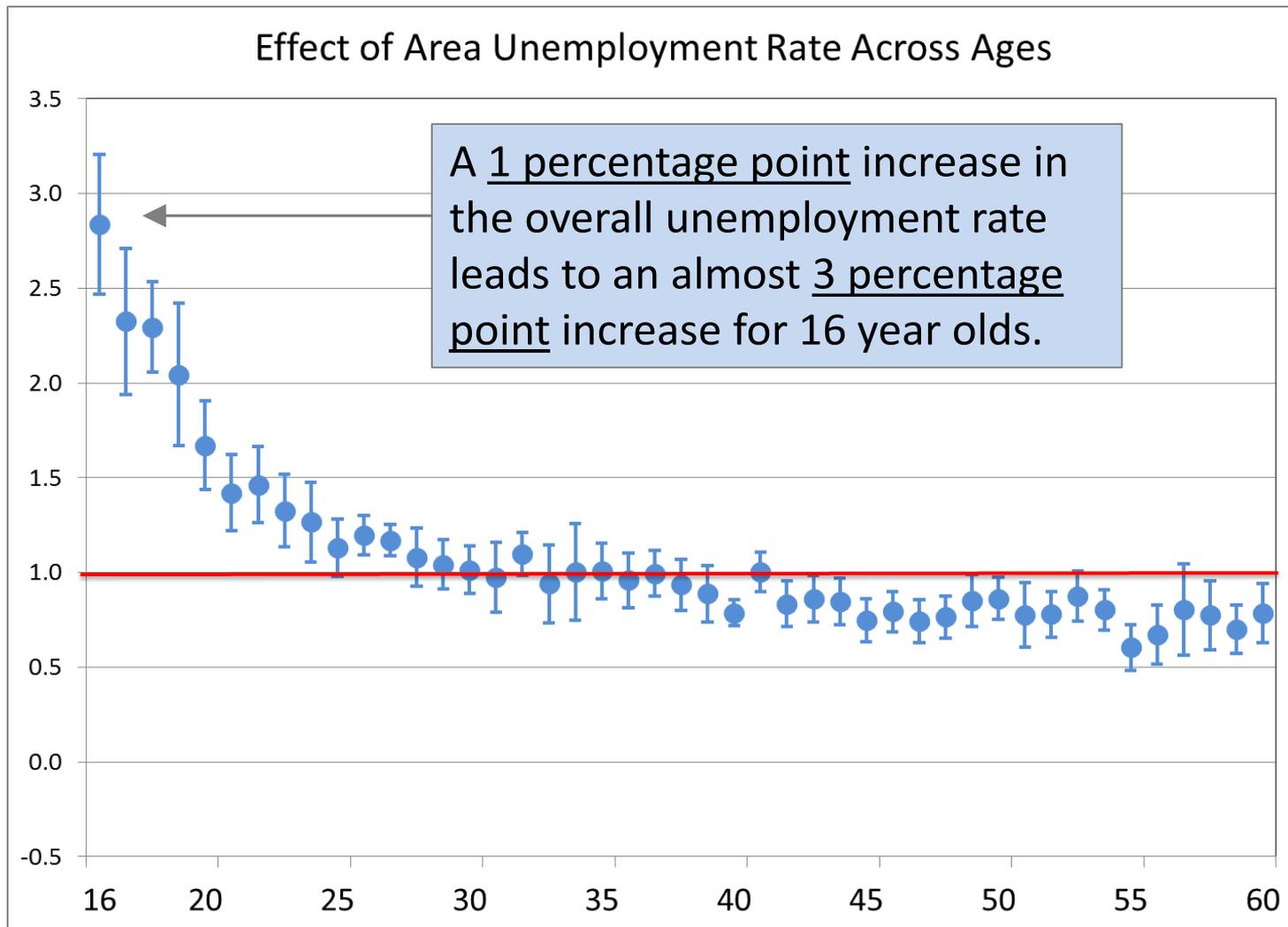
- Examining labor market fluctuations between 1980-2013, we find that recessions are more likely to impact:
 - Young persons
 - Men
 - Racial and ethnic minorities
 - Those with lower education levels
- While the Great Recession led to larger overall job losses (compared to earlier recessions), the pattern across groups was little changed

Empirical Methods: State panel data model

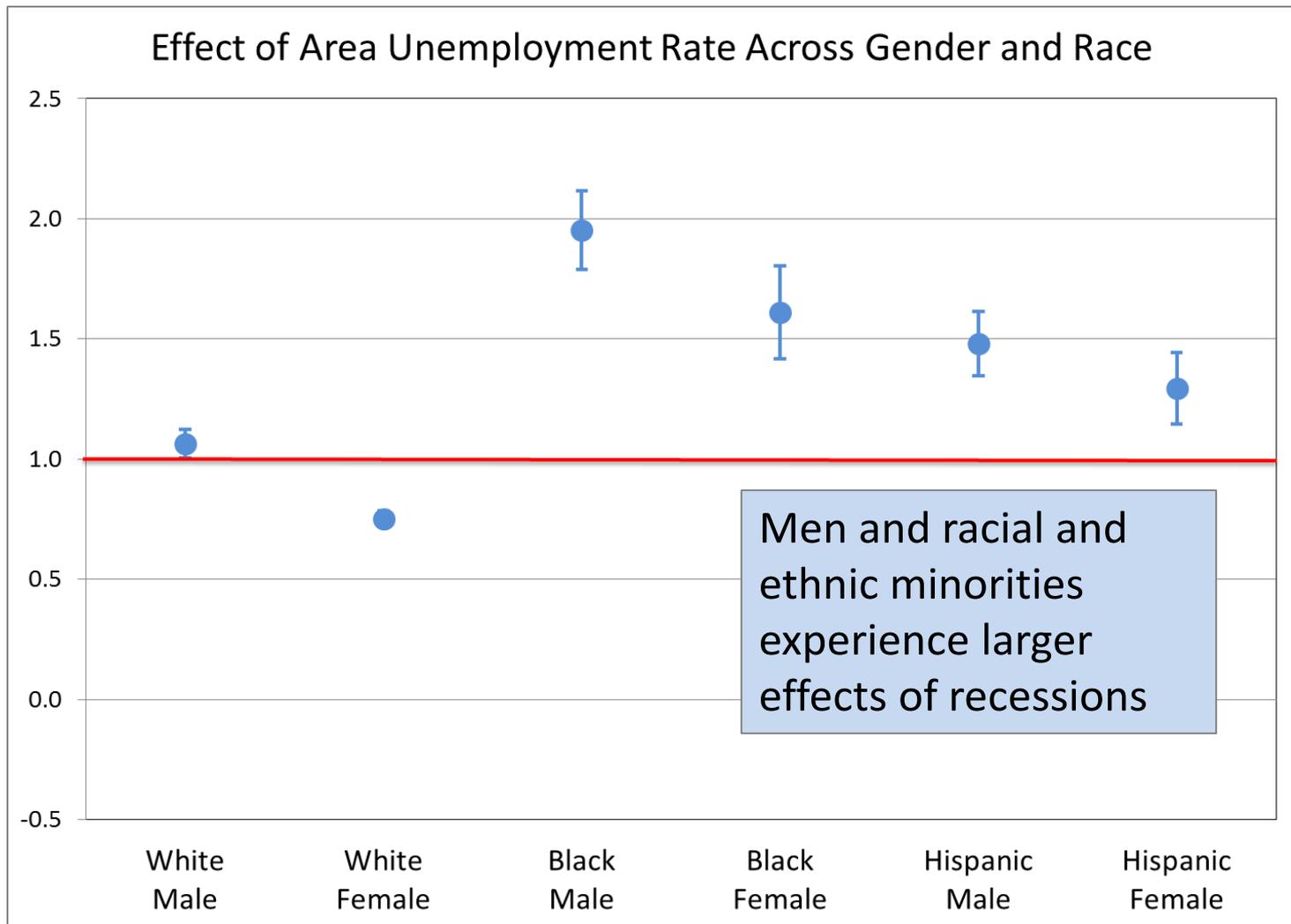
- Collapse the data to: state s by year-month t by demographic group g
- Measure of the cycle: state seasonally adjusted unemployment rate.

$$y_{gst} = \beta_g UN_{st} + \lambda_g + \alpha_s + \delta_t + \varepsilon_{gst}$$

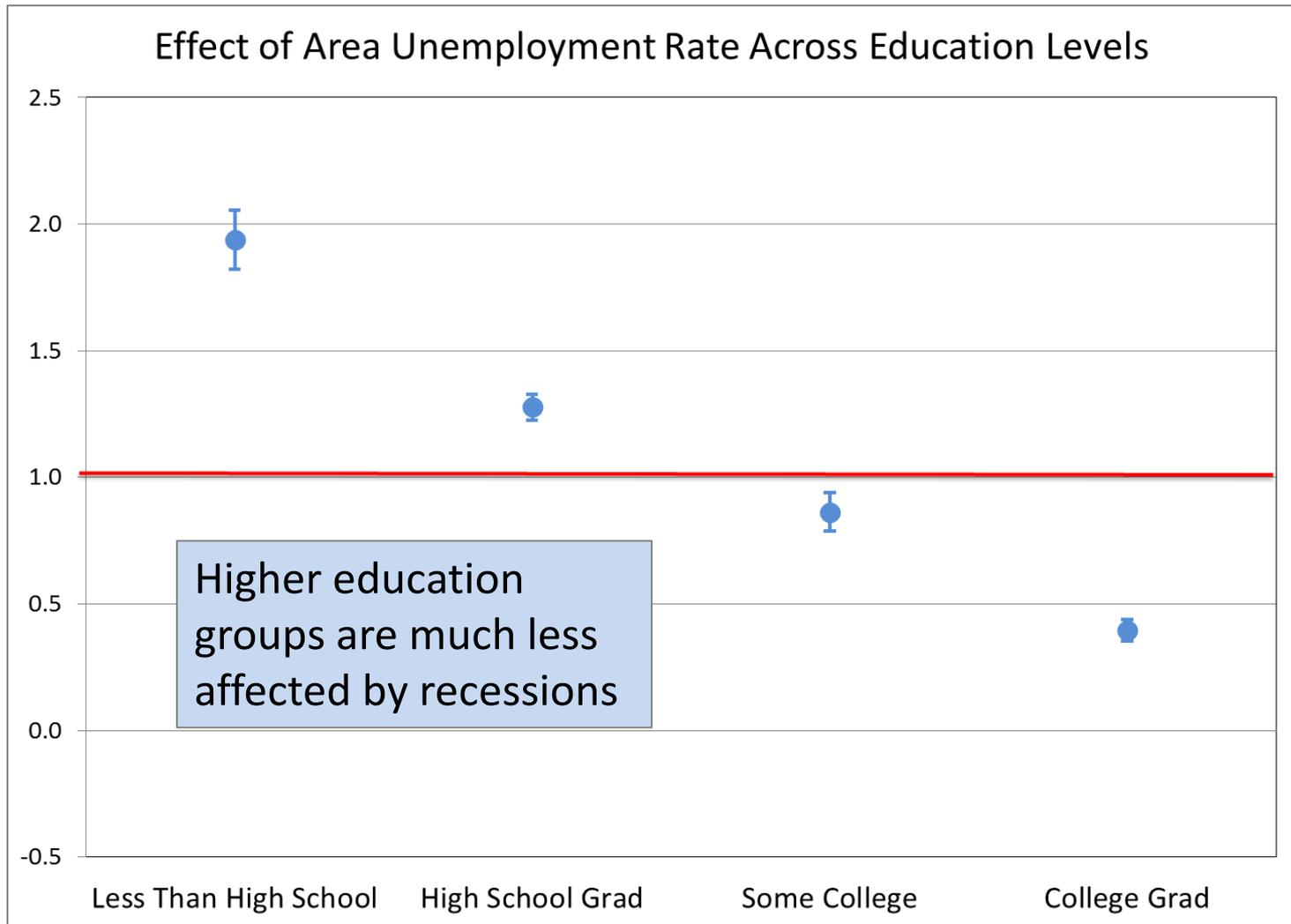
- Additional controls for demographic group, year-month, state
- All estimates clustered by state, weighted by cell weights



Source: Hoynes, Miller and Schaller “Who Suffers in Recessions”, *Journal of Economic Perspectives* 2012 (updated with data through 2013)



Source: Hoynes, Miller and Schaller “Who Suffers in Recessions”, *Journal of Economic Perspectives* 2012 (updated with data through 2013)



Source: Hoynes, Miller and Schaller “Who Suffers in Recessions”, *Journal of Economic Perspectives* 2012 (updated with data through 2013)

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Important Protection programs in the GR

- Cash welfare AFDC/TANF [means tested]
- Food Stamps [means tested]
- The EITC [means tested, requires employment]
- Unemployment Compensation [social insurance]
- Disability benefits: DI [social insurance], SSI [means tested]

The response to the Great Recession: The Stimulus and the Safety Net

- Unemployment Benefits: Emergency program raised UI benefit durations to as long as 99 weeks (usual maximum is 26 weeks); shifts costs from states to federal government
- Increase in unemployment benefits (\$25/week)
- Increase in Food Stamp benefits (13.6%, e.g. \$80/month for family of 4)
- Expanded EITC (for families with 3+ children)
- Expanded Child Tax Credit, increasing refundability
- Establish TANF emergency fund \$5B
- Establish Making Work Pay tax credit up to \$400 per worker/yr
- One time \$250 for SS / SSI / VET recipients

The response to the Great Recession: Other Stimulus items

- Providing funds to states and localities—for example, by raising federal matching rates under Medicaid, providing aid for education, and increasing financial support for some transportation projects
- Purchasing goods and services—for instance, by funding construction and other investment activities that could take several years to complete; and
- Infrastructure
- Renewable energy
- Wiring schools

More on TANF Emergency Fund

- \$5B provided (TANF block grant = \$16.5B)
- States could spend on: cash assistance (32%), diversion payments (42%), subsidized jobs (26%)
- Reimbursed for 80% of costs up to 50% of state block grant
- Not limited to TANF recipients, many states used eligibility up to 200% FPL
- Mostly families with children but also flexibility to serve ABAWDs, particularly youth
- Praised for being flexible, thus making it possible for states to use it and use it quickly (tight timeline)
- for “needy” families (broad income groups, young adult ABAWDs too)

Why are these effective elements of the stimulus

- Goals of a stimulus: increase aggregate demand
- The 3 Ts: Targeted, timely, temporary
- Targeted: the marginal propensity to spend falls with income; get more AD bang for the buck with low income folks
- Timely: get it out there fast (“shovel ready”)
- Temporary: not the principle to create new programs

- And, separately, we aim to help those in need, provide protection against in income

Table 1.

Estimated Macroeconomic Impact of the American Recovery and Reinvestment Act, 2009 to 2013

	Change Attributable to ARRA							
	Real Gross Domestic Product (Percent)		Unemployment Rate (Percentage points)		Employment Years (Millions, annualized)		Full-Time-Equivalent Employment Years (Millions, annualized) ^a	
	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate	Low Estimate	High Estimate
	Calendar Year Average							
2009	0.4	1.8	-0.1	-0.5	0.2	0.9	0.3	1.3
2010	0.7	4.1	-0.4	-1.8	0.7	3.3	0.9	4.7
2011	0.4	2.3	-0.2	-1.4	0.5	2.6	0.6	3.6
2012	0.1	0.8	-0.1	-0.6	0.2	1.1	0.2	1.3
2013	0.1	0.4	*	-0.3	0.1	0.5	0.1	0.5

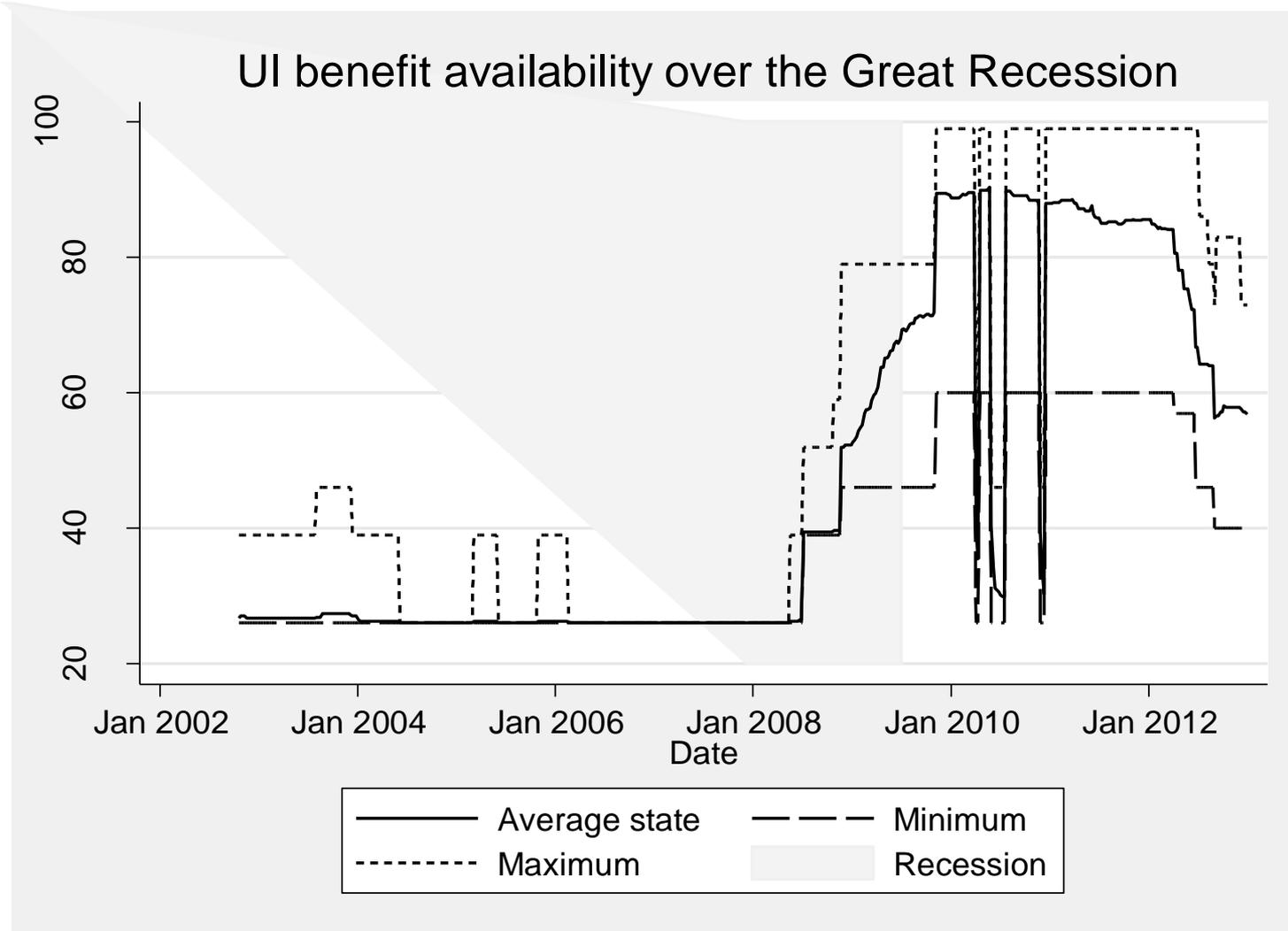
Source: Congressional Budget Office.

Table 2.

Estimated Output Multipliers of Major Provisions of the American Recovery and Reinvestment Act of 2009

Type of Activity	Estimated Output Multipliers ^a		Major Provisions of ARRA
	Low Estimate	High Estimate	
Purchases of Goods and Services by the Federal Government	0.5	2.5	Division A, Title II: Other; Title IV: Energy Efficiency and Renewable Energy; Title IV: Innovative Technology Loan Guarantee Program; Title IV: Other Energy Programs; Title V: Federal Buildings Fund; Title VIII: National Institutes of Health; Title VIII: Other Department of Health and Human Services
Transfer Payments to State and Local Governments for Infrastructure	0.4	2.2	Division A, Title VII: Clean Water and Drinking Water State Revolving Funds; Title XI: Other Housing Assistance; Title XII: Highway Construction; Title XII: Other Transportation
Transfer Payments to State and Local Governments for Other Purposes	0.4	1.8	Division A, Title VIII: Education for the Disadvantaged; Title VIII: Special Education; Title IX: State Fiscal Stabilization Fund; Division B, Title V: State Fiscal Relief Fund
Transfer Payments to Individuals	0.4	2.1	Division A, Title I: Supplemental Nutrition Assistance Program; Title VIII: Student Financial Assistance; Division B, Title I: Refundable Tax Credits; Title II: Unemployment Compensation; Title III: Health Insurance Assistance ^b
One-Time Payments to Retirees	0.2	1.0	Division B, Title II: Economic Recovery Payments
Two-Year Tax Cuts for Lower- and Middle-Income People	0.3	1.5	Division B, Title I: Making Work Pay Credit; American Opportunity Tax Credit
One-Year Tax Cut for Higher-Income People	0.1	0.6	Increase in Individual AMT Exemption Amount
Extension of First-Time Homebuyer Credit	0.2	0.8	Extension of First-Time Homebuyer Credit

UI Benefits extended for 99 weeks



Source: Mueller, Rothstein and von Wachter “Unemployment Insurance and Disability Insurance in the Great Recession,” Forthcoming *Journal of Labor Economics*.



THE AMERICAN RECOVERY AND REINVESTMENT ACT

Connect With Us



Recovery.gov is the U.S. government's official website that provides easy access to data related to Recovery Act spending and allows for the reporting of potential fraud, waste, and abuse.

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[ARRA](#) > [Where is The Money Going?](#) > [Overview of Funding](#) > [Breakdown of Funding](#)

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Breakdown Of Funding By Category

Total Funds Allocated:

\$840 BILLION

Estimated American Recovery and Reinvestment Act tax, entitlement, and contract, grant, and loan expenditures have been increased from \$787B to \$840B to be consistent with the President's 2012 budget and with scoring changes made by the Congressional Budget Office since the enactment of the Recovery Act in February 2009.

Tax Benefits



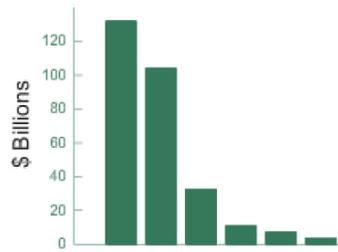
Contracts, Grants and Loans



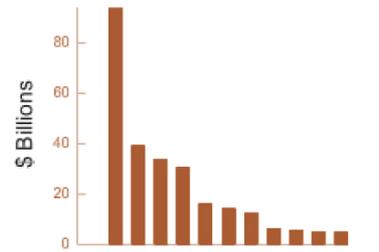
Entitlements



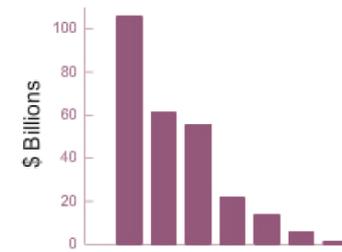
Breakdown Of Funds Paid Out By Category



Total Tax Benefits*



Total Contracts, Grants & Loans



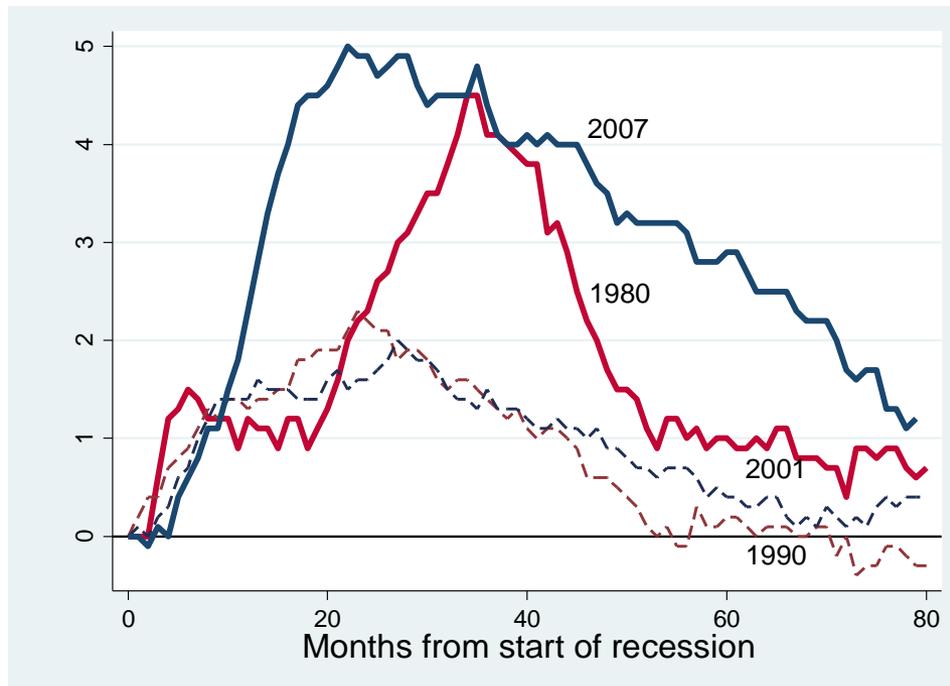
Total Entitlements

Roadmap

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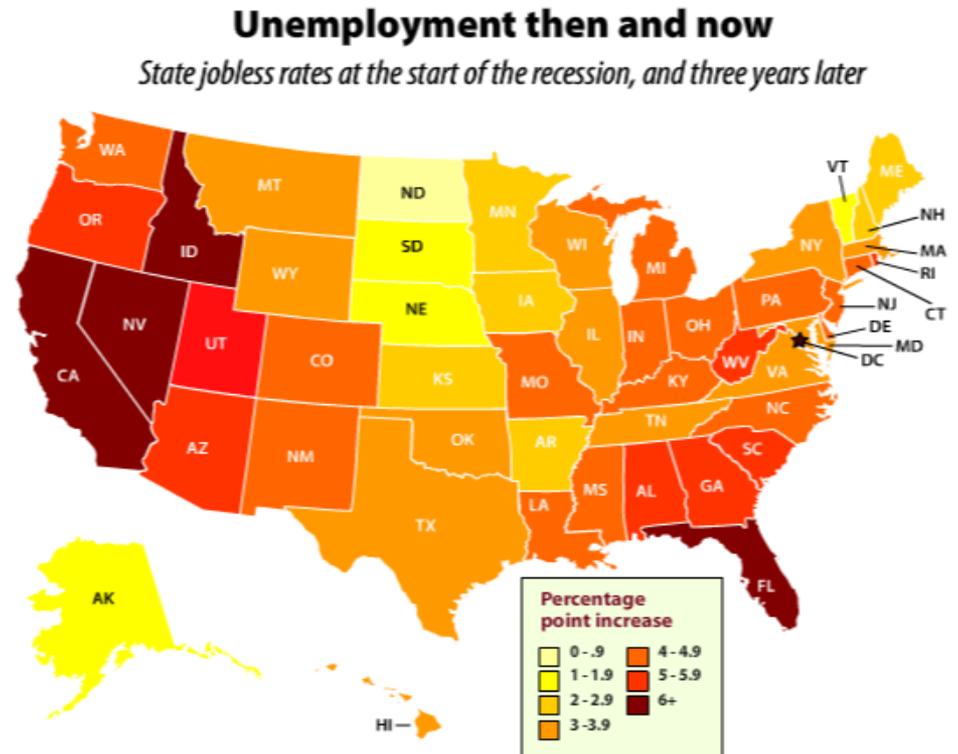
How did the safety net respond to the Great Recession?

- *Compared to what?* We take a historical perspective
- We compare the experience in the Great Recession to the experience in earlier recessions (in particular the early 1980s recession)
- Test if the response of the safety net is different in the GR



The safety net and the Great Recession: *Modeling approach*

- We take advantage of the variation across U.S. states in the timing and severity of cycles
- Estimate a state-year panel data model with the state safety net (caseload/pop) as a function of the unemployment rate, allowing for different effects in the 1980s and the GR.



Source: Employment Policy Institute

http://www.epi.org/publication/interactive_map_unemployment_then_and_now/

What do we expect given policy landscape?

- Decline of welfare and rise of EITC → major transformation of safety net from *out-of-work* aid to *in-work* aid → less protection in GR
- Long UI benefit durations → more protection in GR
- Food stamp benefits expanded leading up to and during the GR → more protection in GR

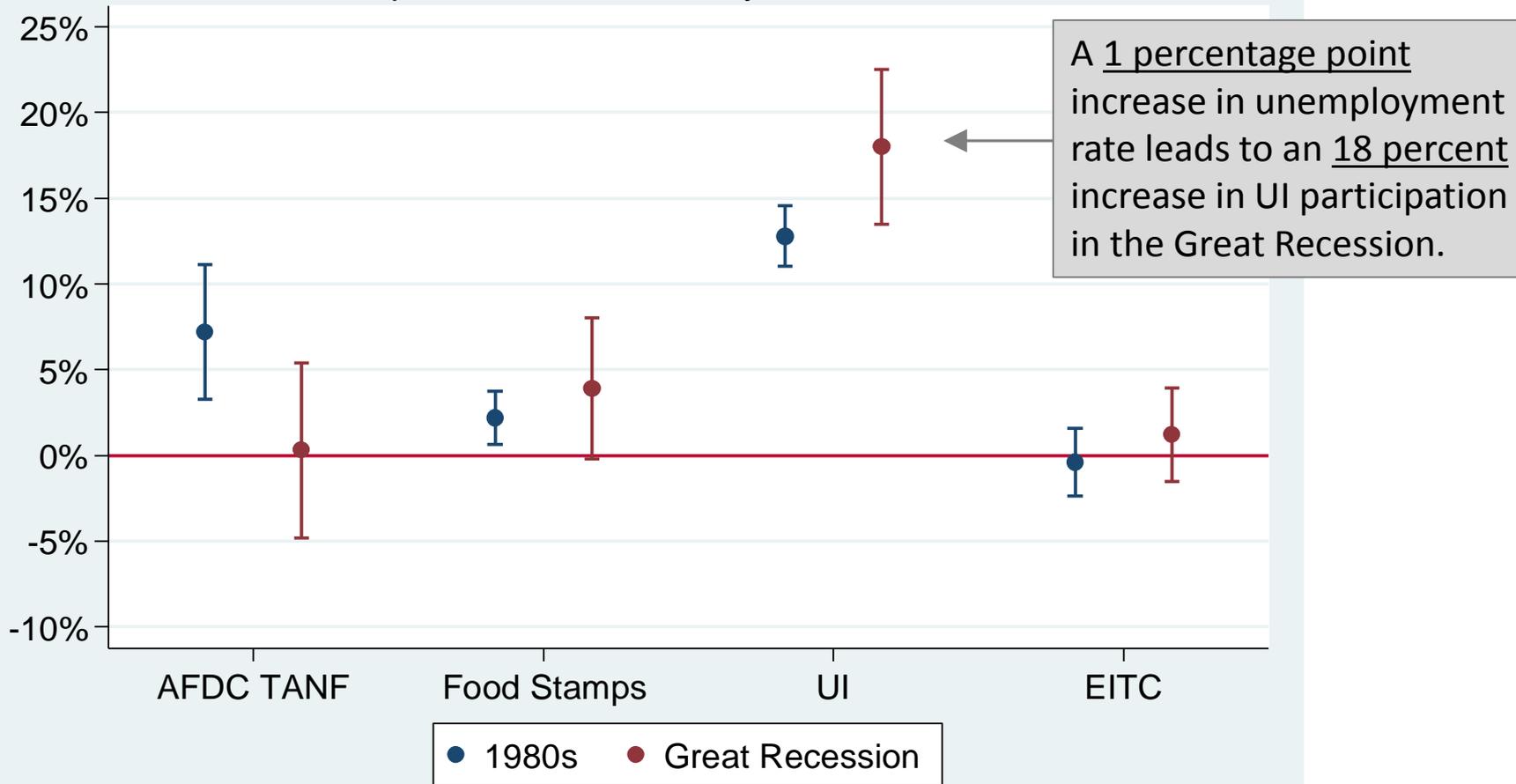
We investigate this by estimating the effect of state-year unemployment rates on state-year safety net participants (per capita).

Empirical model

- State panel fixed effects model
- Cycle measured by state-year unemployment rate
- Standard errors clustered on state, weighted using denominator
- Test 1: Is GR different from 1980s cycle?

$$y_{st} = \beta_{80} D_{80} UR_{st} + \beta_{GR} D_{GR} UR_{st} + \beta_O D_O UR_{st} + \alpha_s + \delta_t + \varepsilon_{st}$$

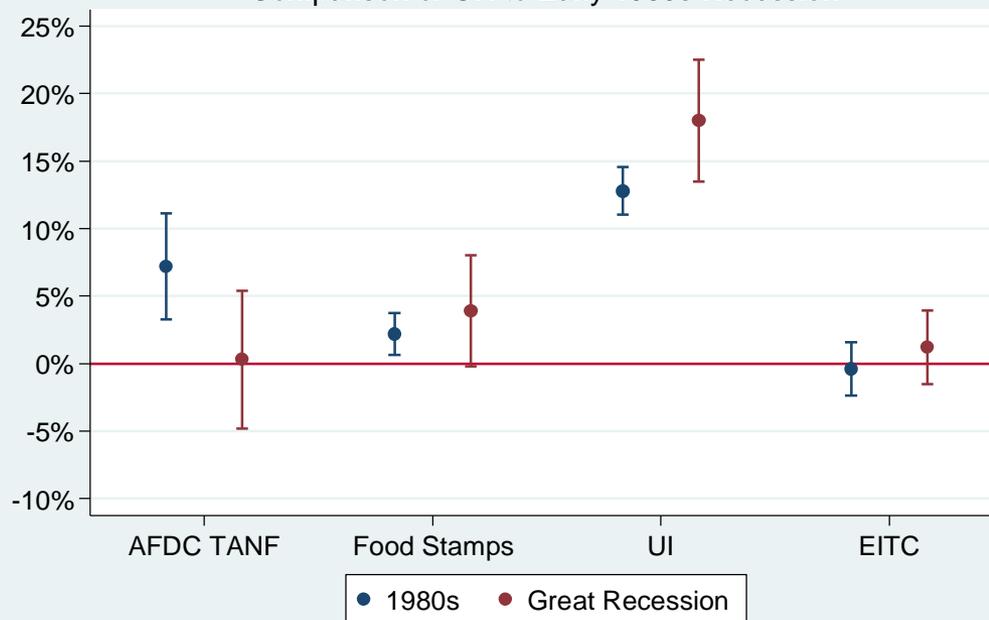
Responsiveness of Safety Net to Unemployment Rate Comparison of GR to Early 1980s Recession



Source: Bitler and Hoynes “The More Things Change, the More They Stay the Same? The Safety Net and Poverty in the Great Recession,”

Note coefficient on “rest of period” omitted here.

Responsiveness of Safety Net to Unemployment Rate
Comparison of GR to Early 1980s Recession



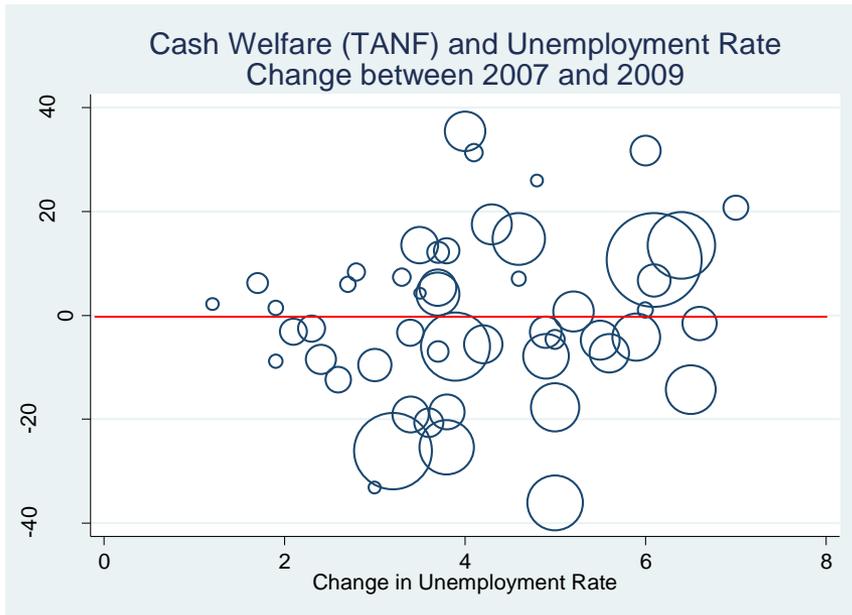
Findings:

- Less protection in GR for cash welfare (TANF)
- More protection in GR for UI and (not significantly) food stamps
- UI is the most cyclical; EITC not responsive to cycles

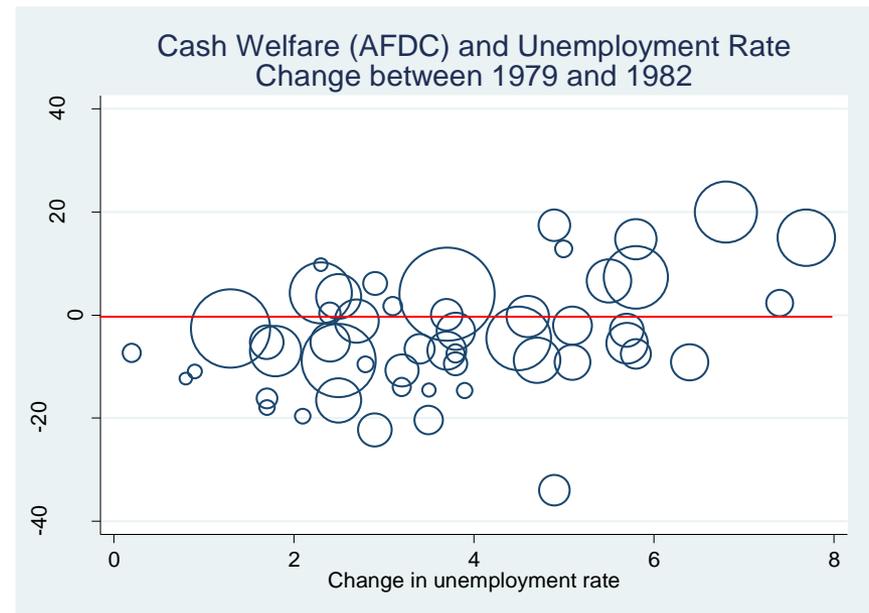
Illustration of these results for TANF

State Scatterplot of ΔUR against $\% \Delta \text{TANF caseload/pop}$

TANF in GR



AFDC in 1980s Recession

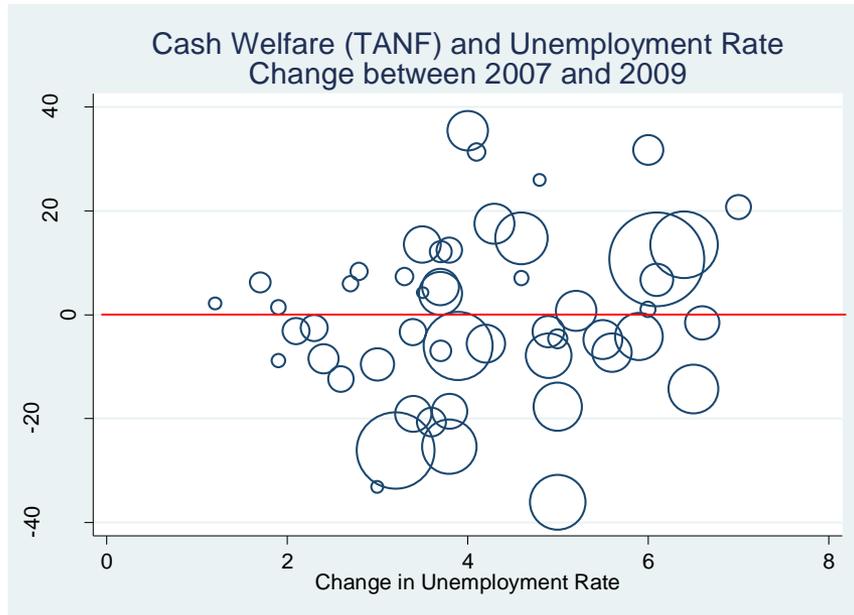


Little relationship between changes in state labor market conditions and TANF in GR

Comparison of Food Stamps and TANF in GR

State Scatterplot of ΔUR against $\% \Delta \text{caseload/pop}$

2007-2009 TANF



2007-2009 Food Stamps

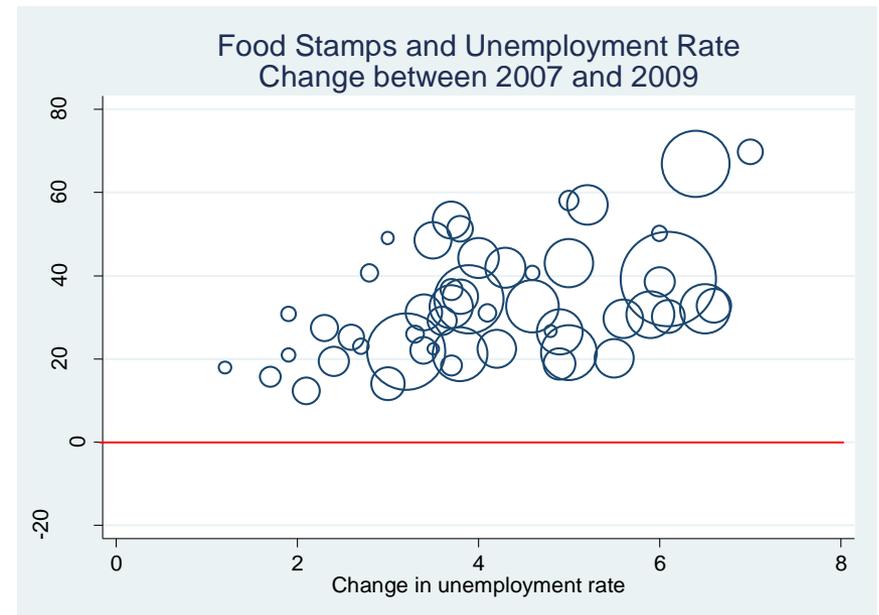
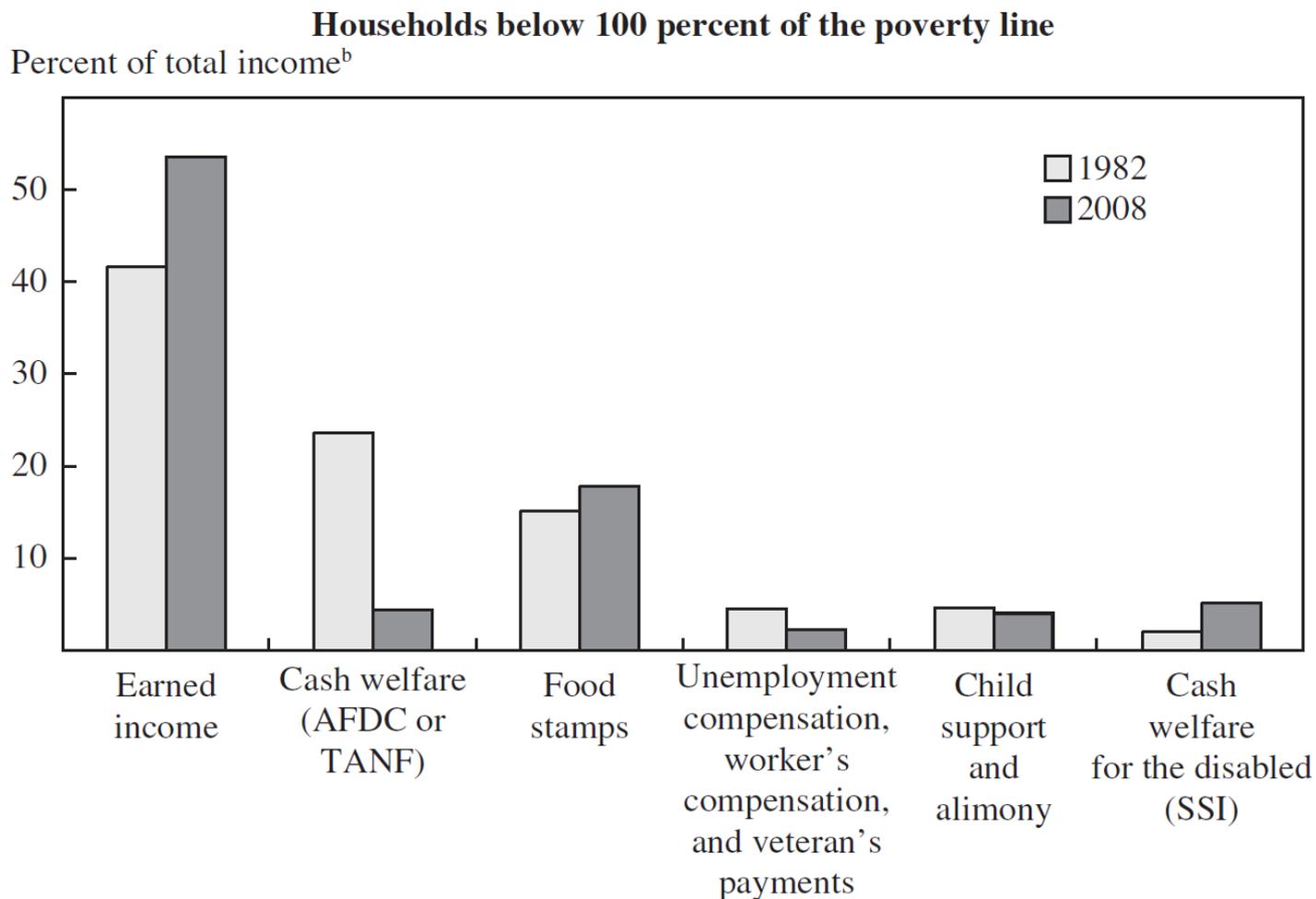


Figure 4. Composition of Income by Source for Households below the Official Poverty Line, 1982 and 2008^a

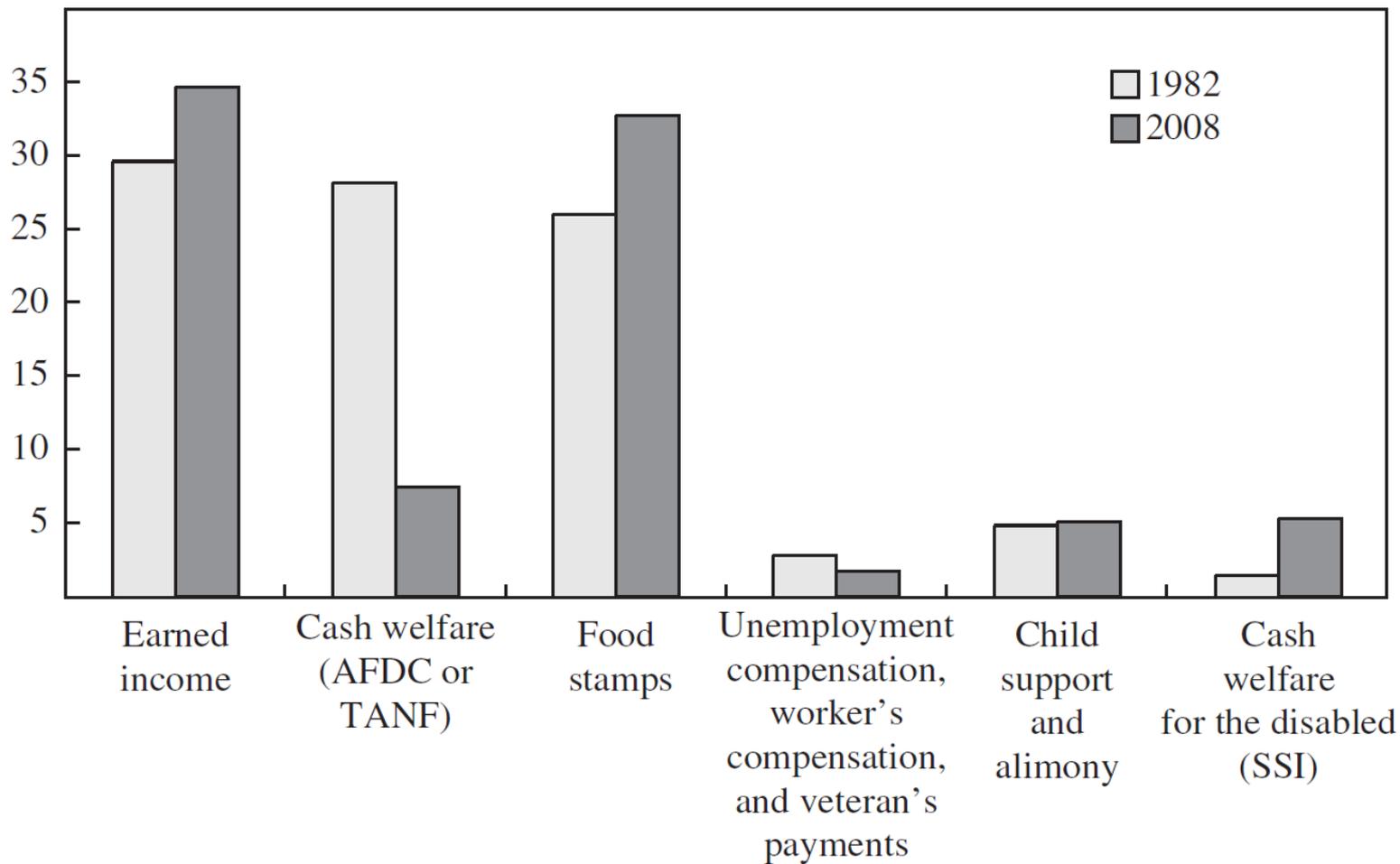


Source: Bitler and Hoynes, *Brookings Papers on Economic Activity* 2010.

payments

Households below 50 percent of the poverty line

Percent of total income^b



Source: Bitler and Hoynes, *Brookings Papers on Economic Activity* 2010.

Safety nets and the Great Recession: Bottom Line

- Cash welfare (TANF) provided no protection in the Great Recession
- Unemployment Insurance and Food Stamps provided more protection in the Great Recession (compared to a similar shock to UR in earlier recessions)
- But how does this translate to family wellbeing?

We can use similar models to explore the effects of the Great Recession on poverty.

Despite increase in SNAP, Rates of food insecurity increased during Great Recession

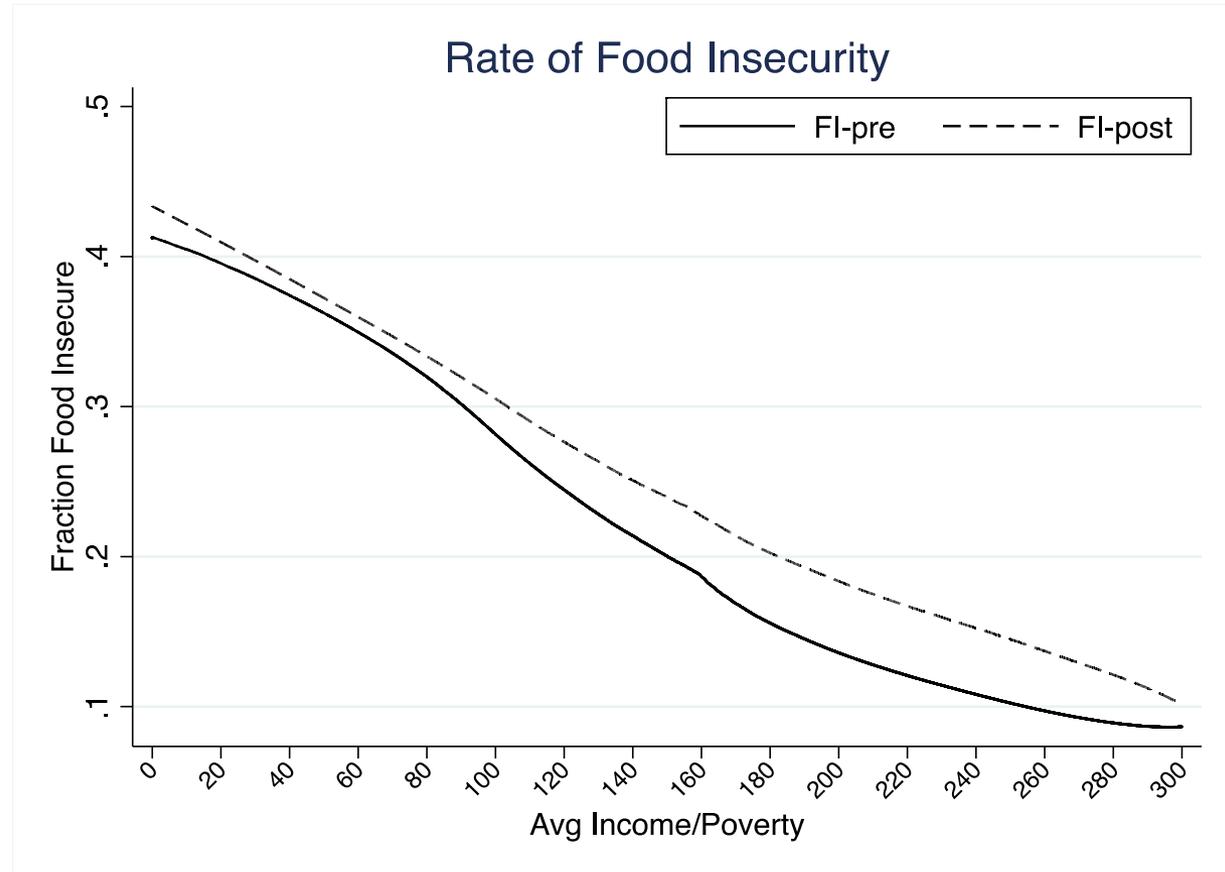
Food insecurity: self reports of series of questions about whether & how altered food intake because of lack of resources

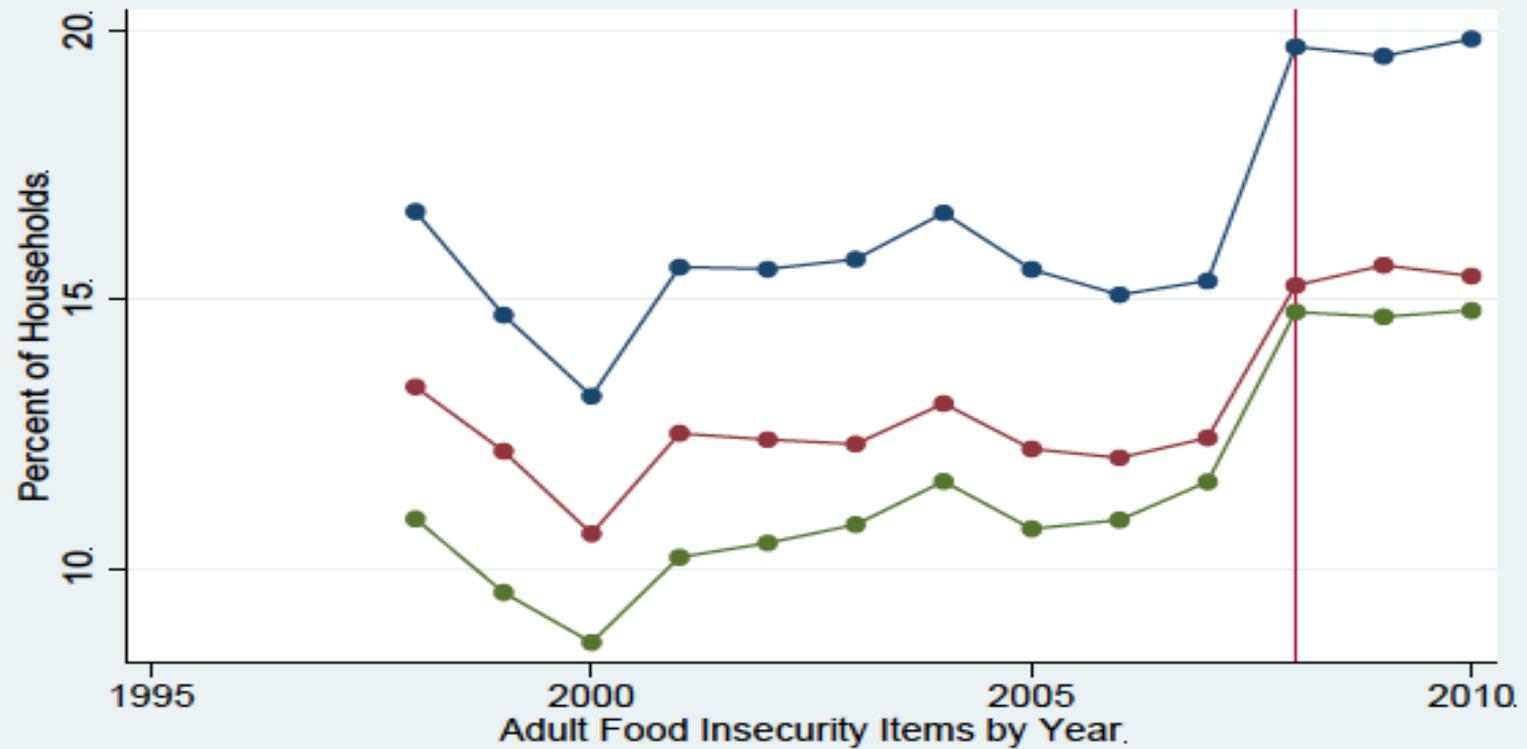
Sharp increase during GR

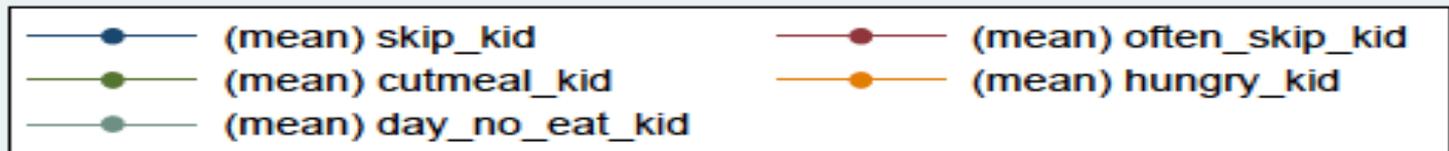
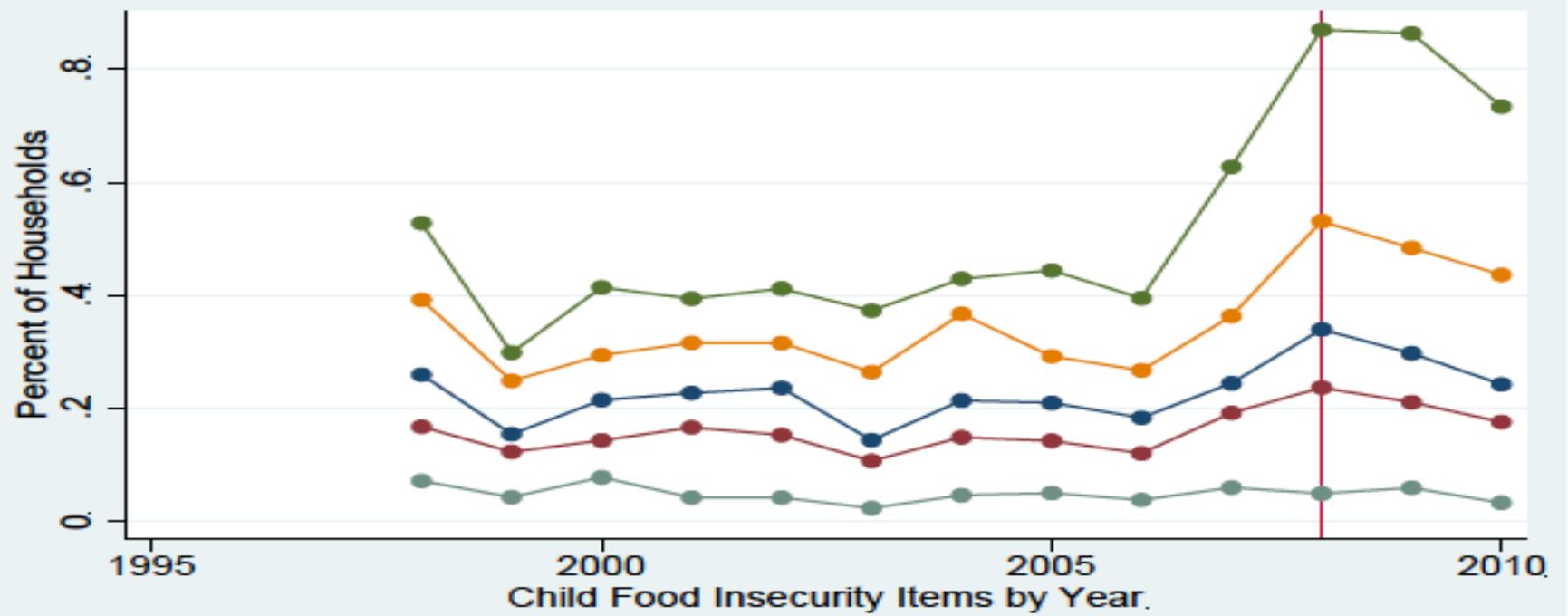
As income-to-poverty increases:

- *Rate of insecurity decreases, but*
- *Recession increase in insecurity larger*

Higher income-to-poverty levels not fully insured against income shocks



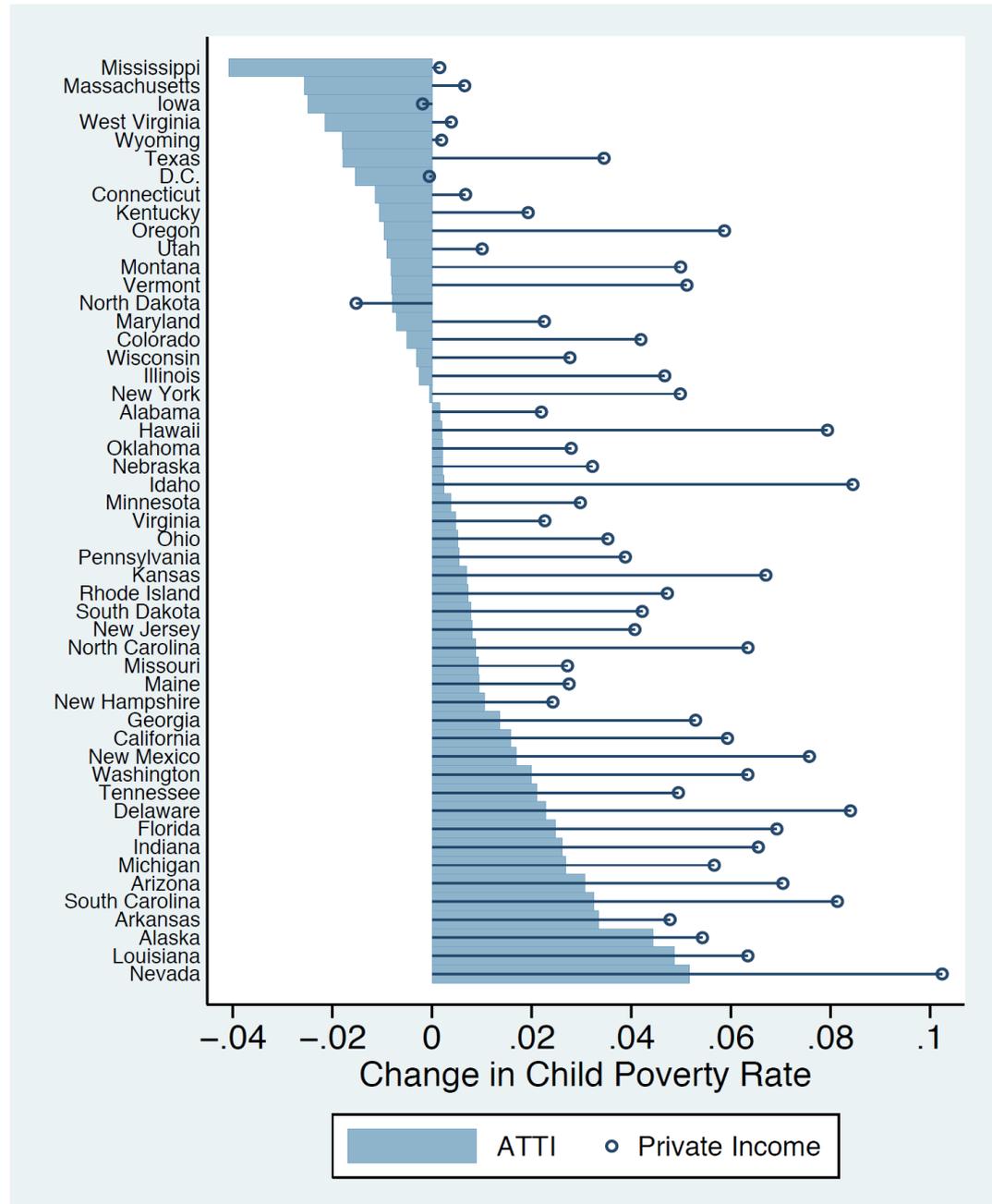




Roadmap

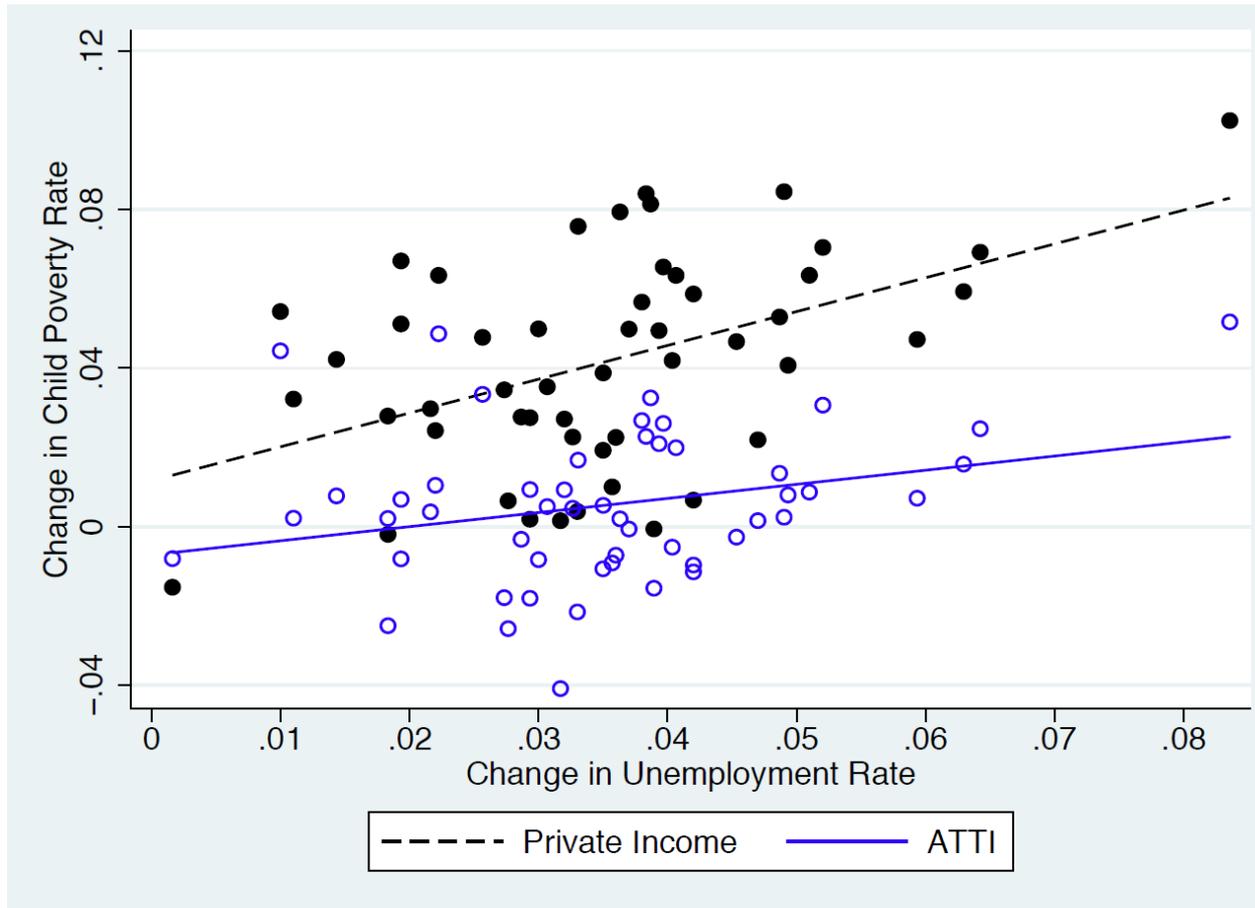
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Overall, the social safety net is effective at dampening the effects of an economic shock



Source: Bitler, Hoynes and Kuka “Child Poverty in the Great Recession.”

State Scatterplot of Change in UR against Change in Child Poverty, 2005-2007 to 2010-2012



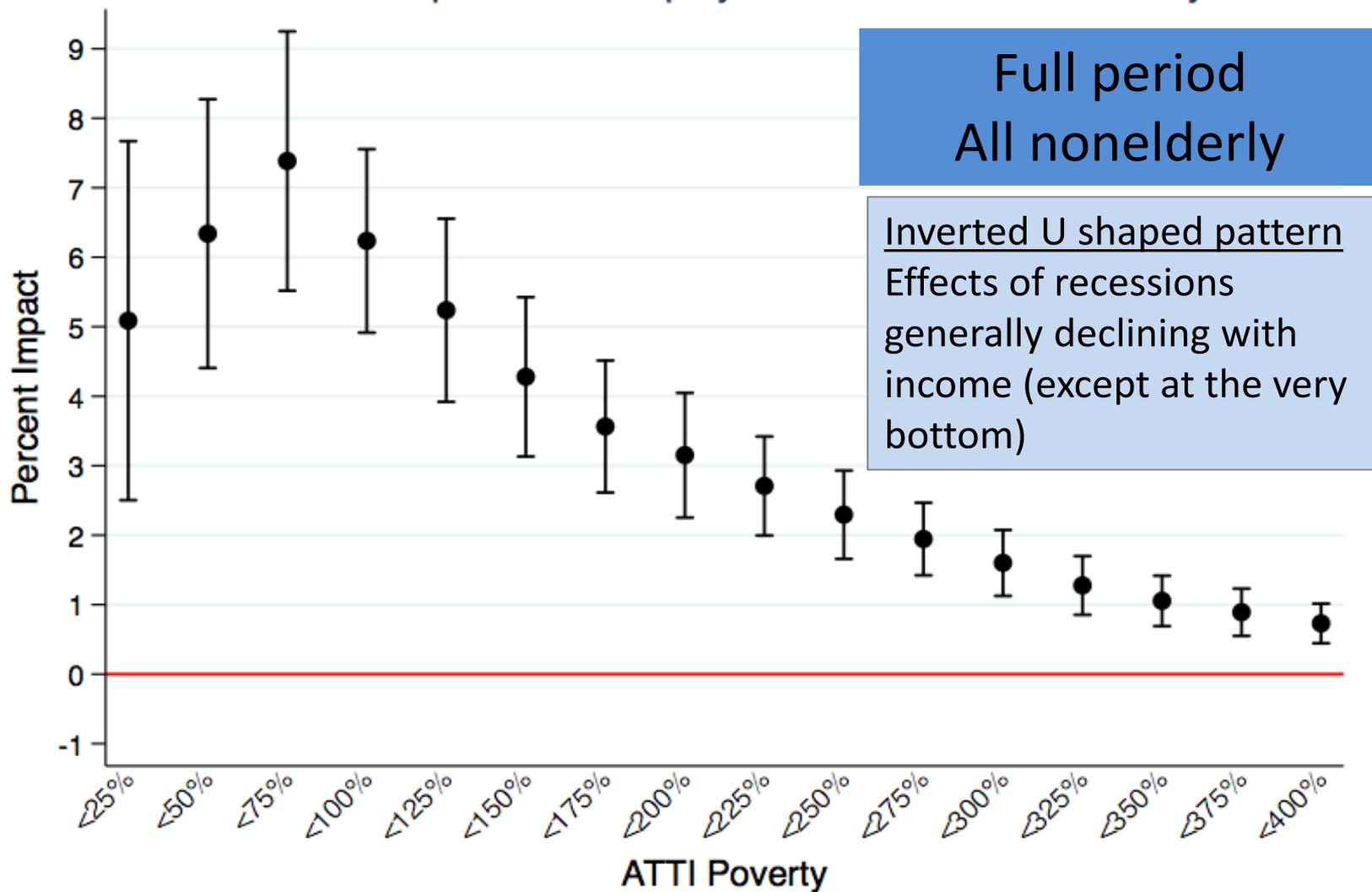
Source: Bitler, Hoynes and Kuka “Child Poverty in the Great Recession.”

But how do we gauge the degree to which the most vulnerable were protected in the Great Recession?

- Again, *we take a historical perspective*
- We compare the experience of poverty in the Great Recession to the experience in earlier recessions (in particular the early 1980s recession)
- Test if the response of the safety net is different in the GR
- As before, we do this by estimating a state panel data model, using variation in the timing and severity of cycles across states.

$$y_{st} = \beta_{80} D_{80} UR_{st} + \beta_{GR} D_{GR} UR_{st} + \beta_O D_O UR_{st} + \alpha_s + \delta_t + \varepsilon_{st}$$

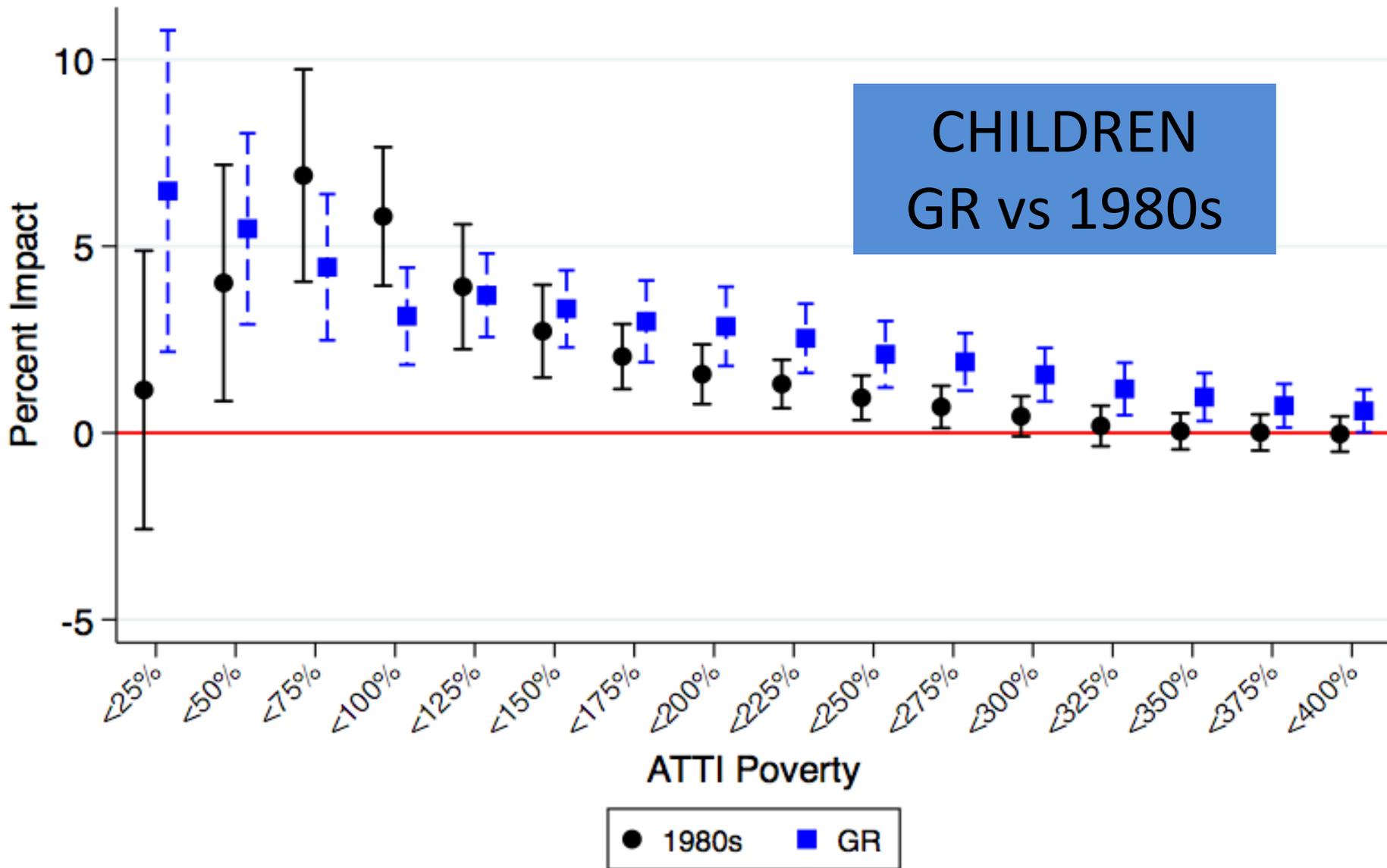
Percent Impact of Unemployment Rate on ATTI Poverty



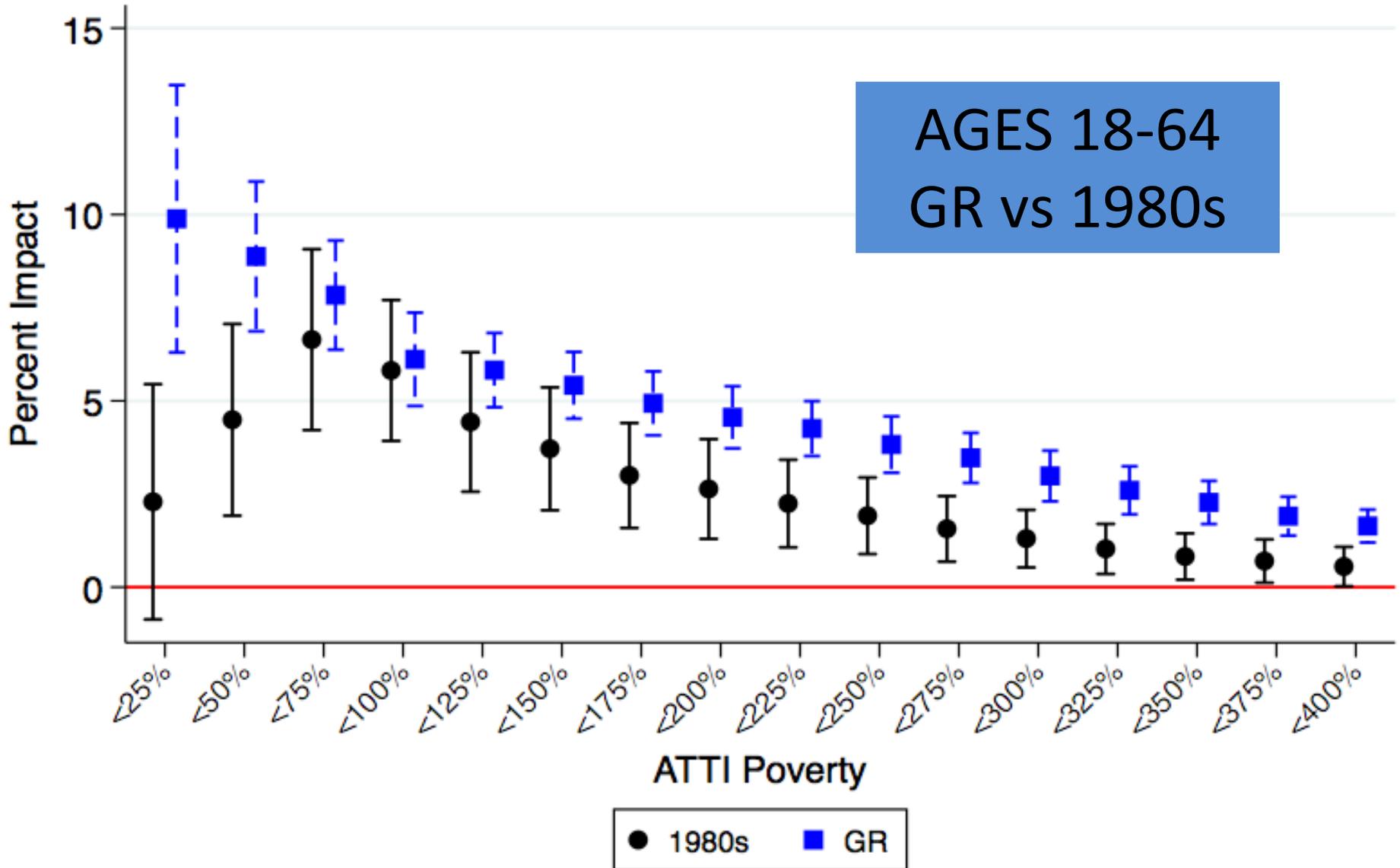
Source: Bitler and Hoynes “Heterogeneity in the Impact of Economic Cycles and the Great Recession: Effects Within and Across the Income Distribution”

25% of households have income above 400%

Percent Impact of Unemployment Rate on ATTI Poverty <18 Years Old, 1980s vs. Great Recession



Percent Impact of Unemployment Rate on ATTI Poverty 18-64 Years Old, 1980s vs. Great Recession



THE BAD NEWS

- The share of nonelderly falling below 50% poverty (*extreme poverty*) is more affected than we would have expected from prior cycles (inverted U shape is GONE)
 - This seems directly related to welfare reform

THE GOOD NEWS

- Slightly higher up the income distribution, around 100% poverty, is less affected than we would have expected from prior cycles
 - This may be tied to food stamps

Poverty and the Great Recession: Bottom Line

- More families fell into extreme poverty than we would have expected from historical experience; this is directly tied to the dismantling of cash welfare
- Fewer families fell below (100%) poverty than we would have expected from historical experience; this is linked to the success of the food stamp program

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Lesson #1:

U.S. lacks a safety net for extreme poverty

- Welfare reform has removed the protection for the most vulnerable
- For some, disability benefits have filled this hole

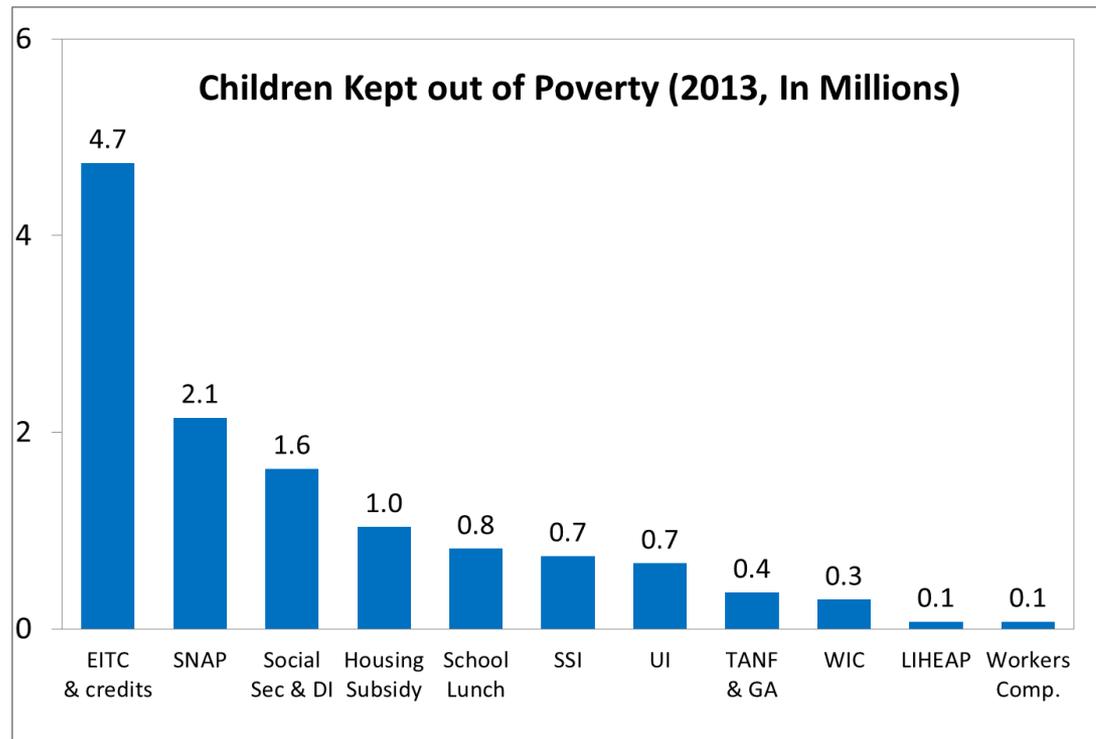
Lesson #2:

A large and targeted stimulus can make a difference

- Extensions to unemployment benefits and accessibility of food stamps

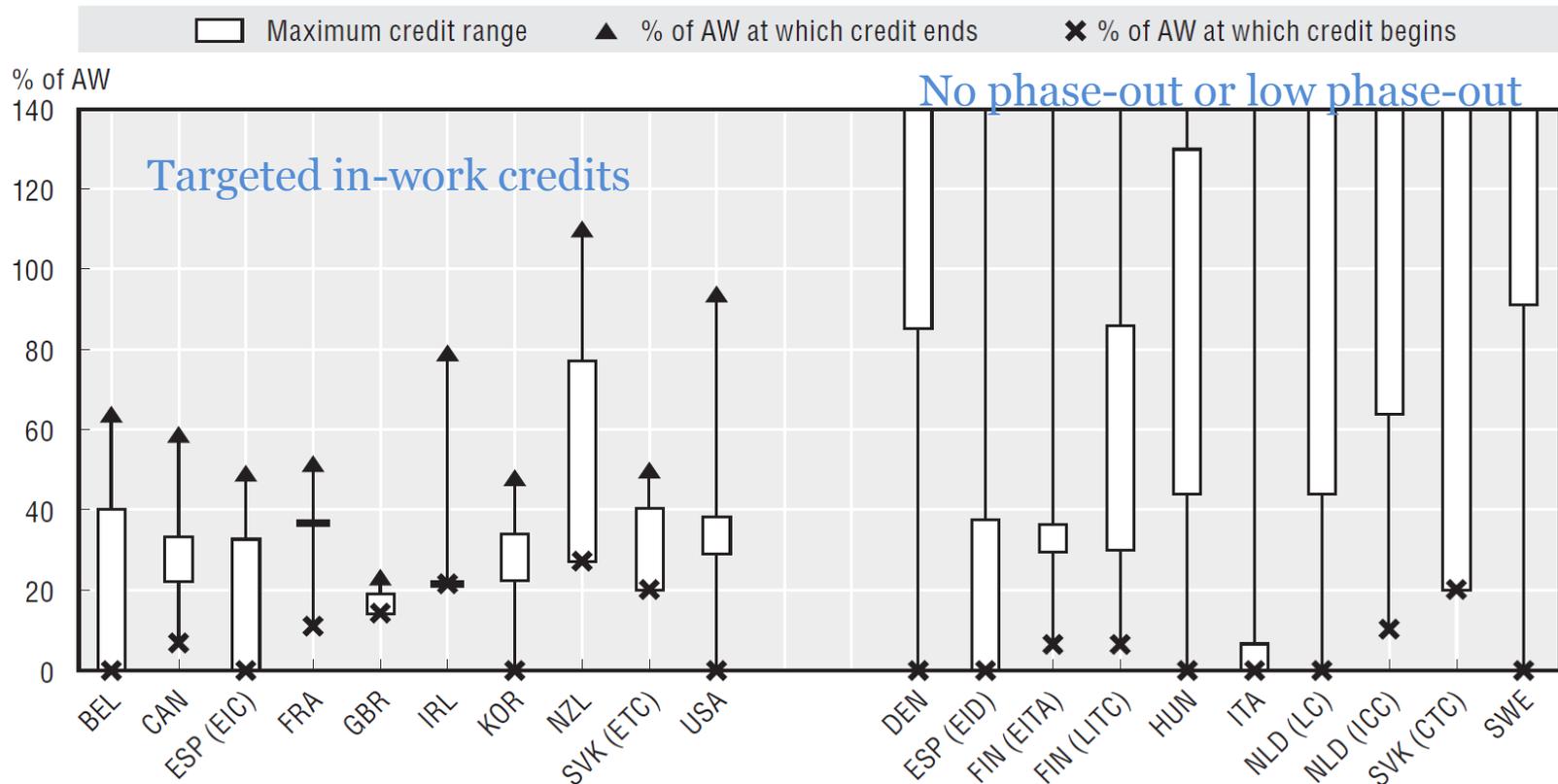
Lesson #3: In-work benefits are not well suited to providing protection against job loss

- The Earned Income Tax Credit is the most important antipoverty program for families in the U.S.



In-work credits are being adopted across the OECD

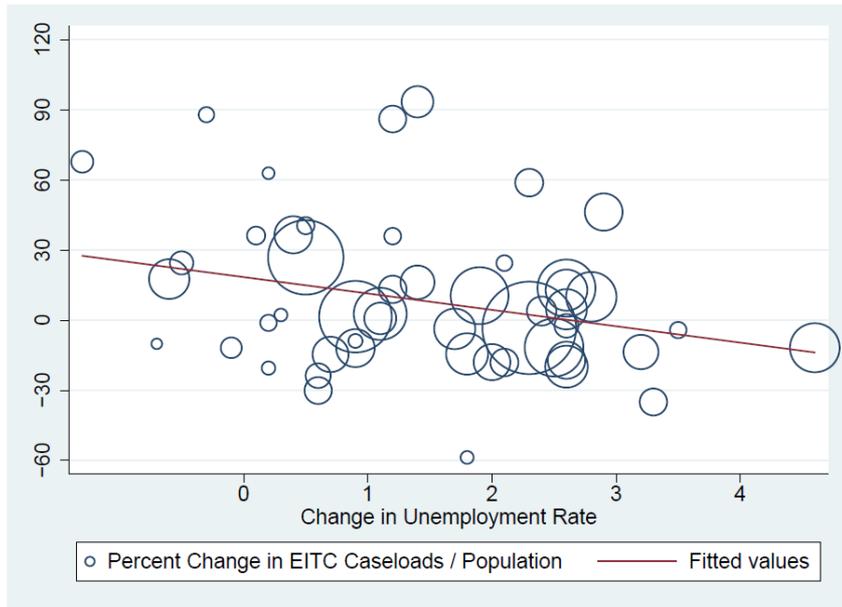
Figure 2.7. Targeting of in-work credits in OECD countries (for single parent with two children), 2010¹



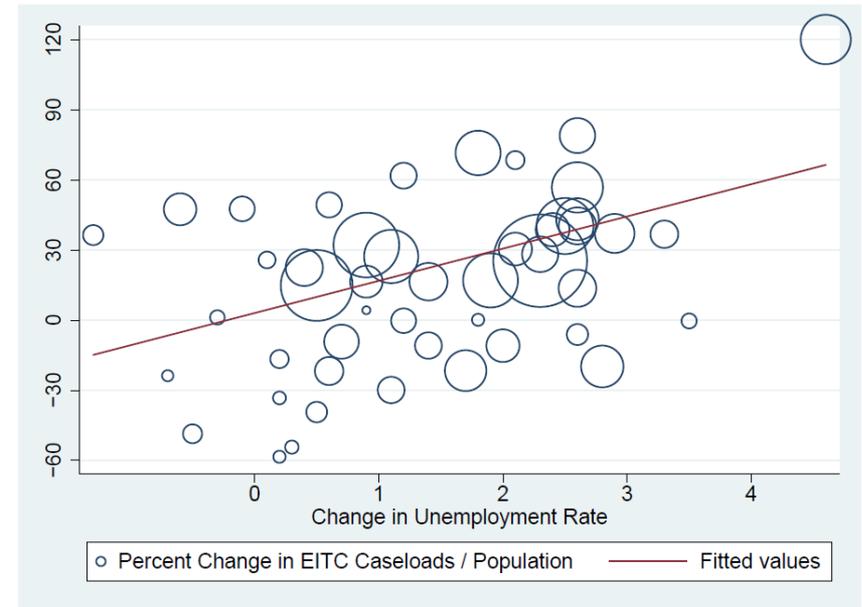
1. EIC: Earned Income Credit; ETC: Employee Tax Credit; EID: Earned Income Deduction; EITA: Earned Income Tax Allowance; LITC: Labour Income Tax Credit; LC: Labour Credit; ICC: Income Dependent Combination Credit; CTC: Child Tax Credit.

- The Earned Income Tax Credit is the most important antipoverty program for families in the U.S.
- Research shows that the EITC leads to large increases in employment, as well as improving health and child cognitive outcomes
- But, because it requires earned income, it does not work well in times of high unemployment. It is not designed to provide insurance against income losses.

(c) Single with Children



(d) Married with Children

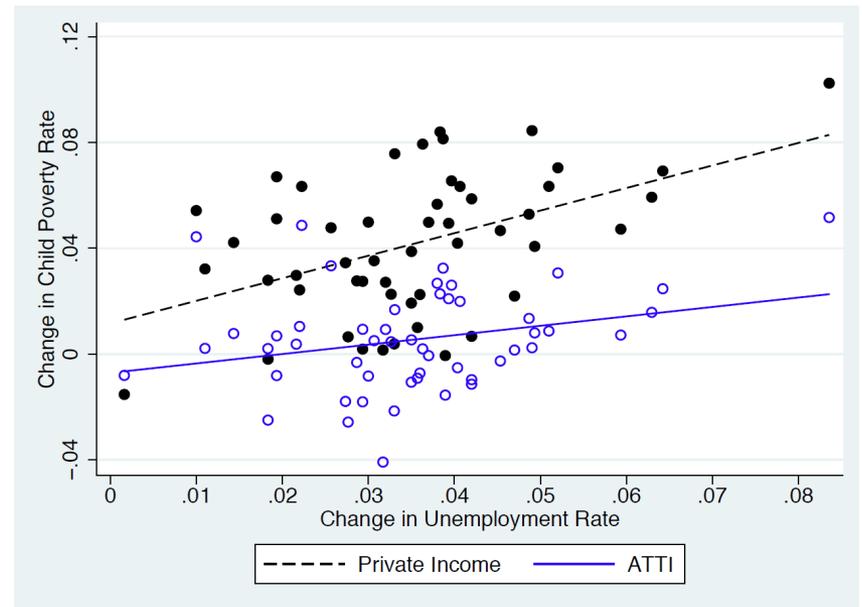
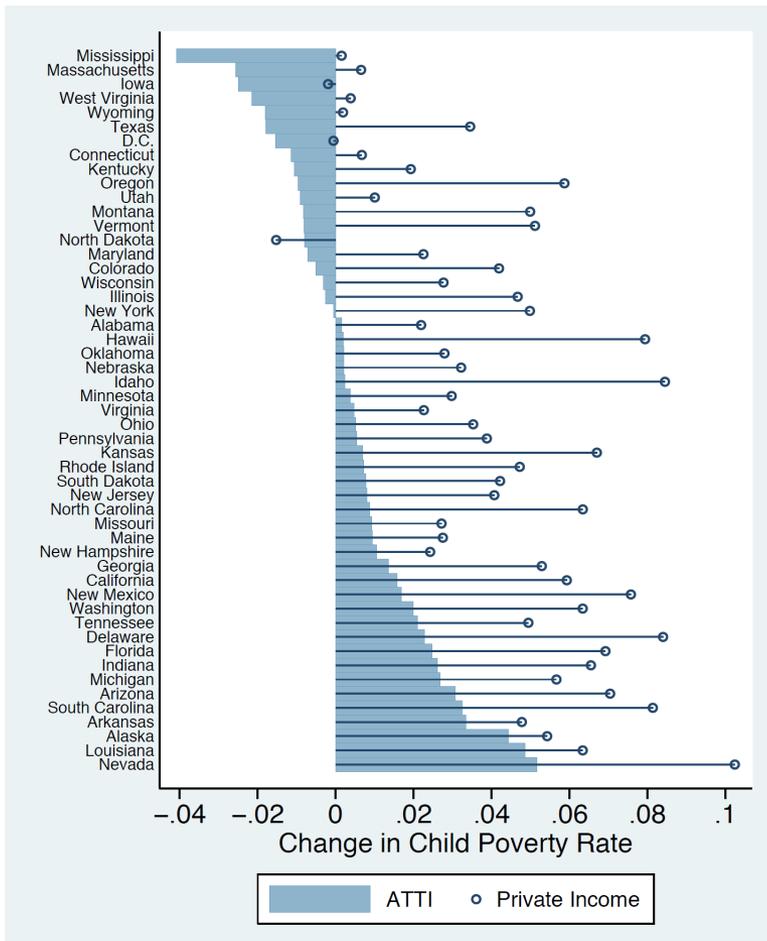


- For single parent families, the EITC is weakly pro-cyclical; it provides no additional assistance in times of “need”
- For married couples, the EITC has some countercyclical response, reflecting possibility that a earnings shock will move people in to eligibility range

Source: Bitler, Hoynes and Kuka “Do In-Work Tax Credits Serve as a Safety Net?”

- With the decline of *out-of-work* assistance (e.g., welfare reform) accompanying the increase in *in-work* assistance, the net effect is less protection against job and income losses

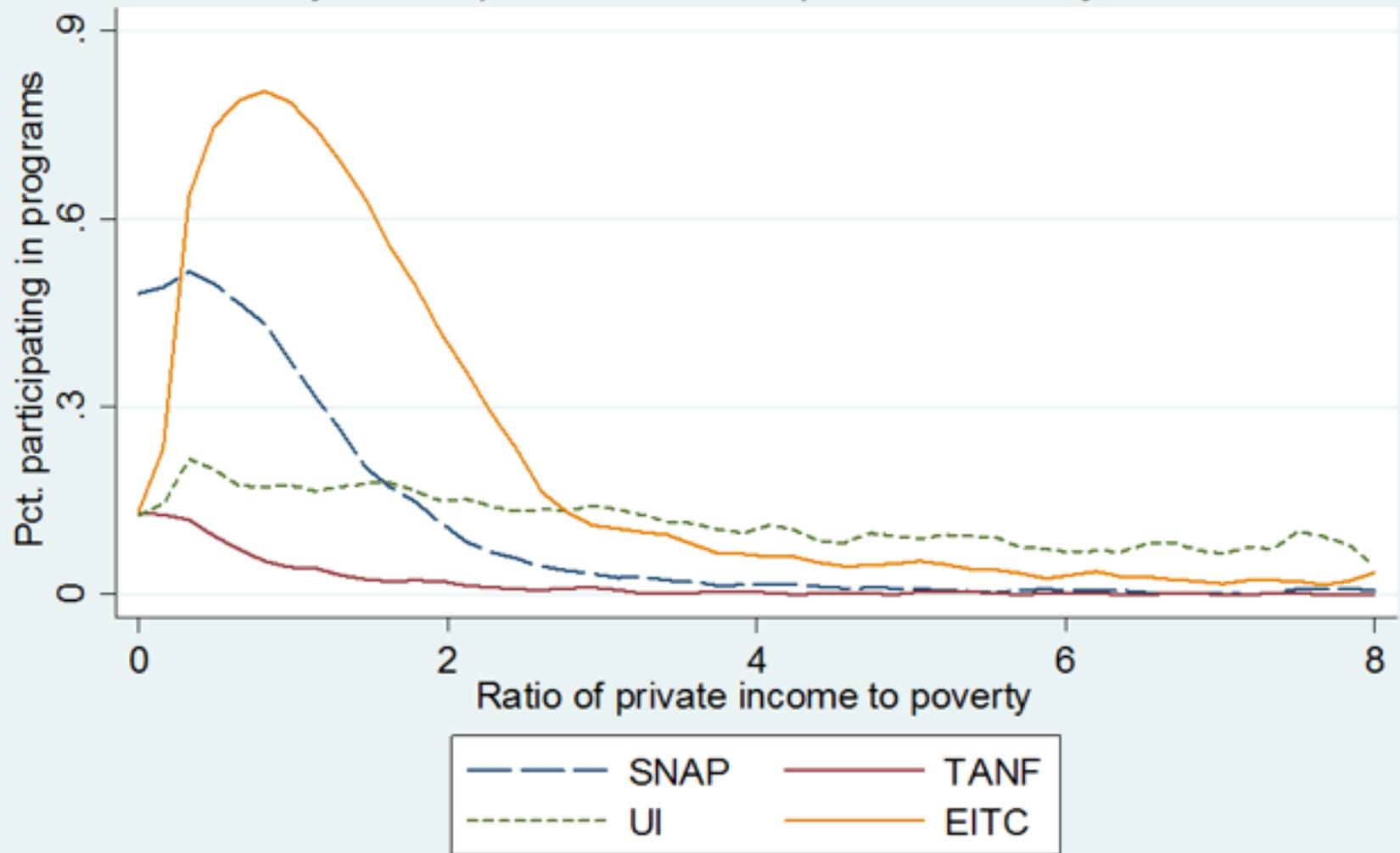
Lesson #4: The social safety net is essential to reducing the effect of economic shocks



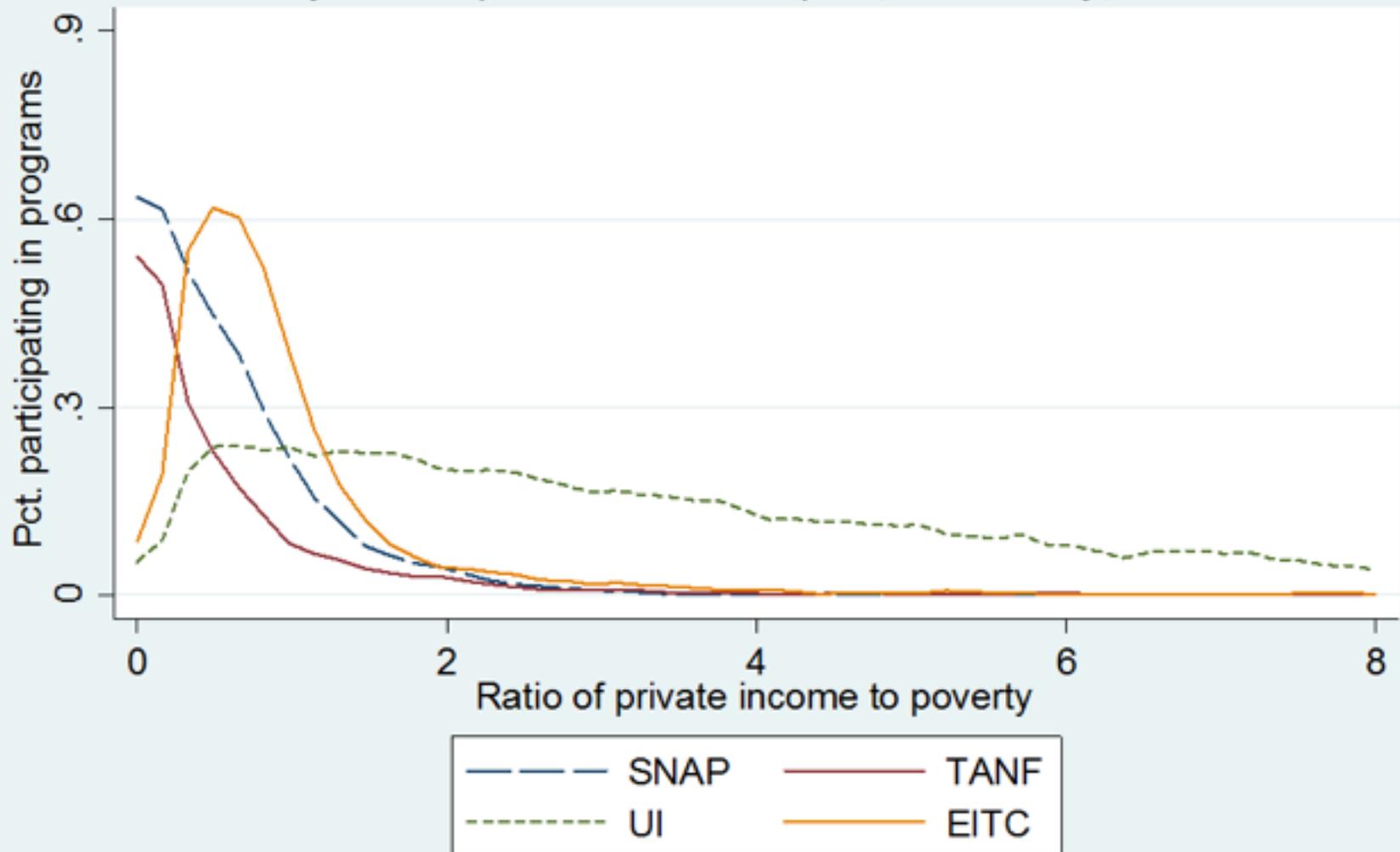
Conclusions

- The Great Recession led to the largest increase in unemployment in the post-war period
- One of the important roles for government is to design programs to effectively insure against losses to income; provide protection in times of need
- The evidence from the Great Recession, in terms of the response of the social safety net and the incidence of poverty, is of great importance for learning about what is working and what is not

Kernel Density Plot of HH program participation, by ratio of private income to pov., non-elderly, 2010



Kernel Density Plot of HH program participation, by ratio of private income to pov., non-elderly, 1982



Long Run Effects of the Safety Net

PP290

Hilary Hoynes

The Social Safety Net: Research Insights

- How do these programs affect employment, poverty?
- Are they efficient as a mechanism to improve the lives of the disadvantaged
- Does providing these benefits lead to improved outcomes such as health and school performance
- Do the programs help protect families against job loss, economic cycles and do they serve as “automatic stabilizers”

The new research frontier: the safety net as an investment

- There is a new and growing literature that seeks to quantify the medium and longer term effects of the social safety net
- Particularly the link between access to the safety net in childhood and adult health and economic outcomes
- Does more “protection” while young yield returns in the long run?
- We are used to these arguments when talking about early childhood education, but what about the social safety net?
- This work has shown us that childhood exposure to SNAP, EITC and Medicaid lead to improvements in the long run.

The Theory: Why might early life investments matter

The “Fetal Origins” Hypothesis

- Prenatal period lays foundation on which the rest of childhood is built
- Affects outcomes throughout childhood and the rest of life
- Alternatively “Barker “ hypothesis

Early analysis of fetal origins

- What matters in utero
- Hypothesis originally focused on prenatal nutrition: how much and what mother eats
- Early evidence from famine episodes, especially the 1944-45 Dutch Famine
- Epidemiology



Fetal Origins Hypothesis; Nutrition

- Events in *early life* “program” body for the type of environment likely to face
- Example: Limited nutrition pre/post natal → expect future to be nutrition-deprived → body invokes (irreversible) biological mechanisms to adapt to predicted poor postnatal environment
- If future world is *not* nutrient-deficient, it is maladapted to environment
- Adverse effects for “metabolic syndrome”: Obesity, cardiovascular disease, high blood pressure, type 2 diabetes
- Negative consequences latent, show up later in life
- Unclear when “critical” period ends (post-natal exposure may matter too)

Contributions from Economics

- Interest in economics pioneered by Janet Currie and Doug Almond.
- It's not just about famines
 - Disease environment (influenza, malaria)
 - War time stress
 - Environment (radiation, pollution)
- Its not just about health in adulthood
 - human capital outcomes and life trajectory affected as well
 - Test scores in childhood
- High quality quasi experimental evidence

Stress as alternative pathway

9

- Chronic stress leads to adverse health outcomes
- Recent work using credible designs shows that the SES/cortisol correlations may be causal and manipulated by policy
 - Expansion of the EITC lowered risky biomarkers for mothers (Evans and Garthwaite 2011)
 - Conditional cash transfers (Oportunidades) lead to reduction in cortisol among children 2-6 (Fernald and Gunnar 2009)
 - Negative shocks to rainfall lead to higher cortisol in Kenya (Haushofer et al 2012)
 - Prenatal maternal cortisol negatively affects health, cognition, and education of children (Aizer, Stroud and Buka 2009)

Enter the work on the social safety net

10

- Early work is in public health and is *largely correlational*. There is also evidence from rat experiments that shows both *pre-* and *post-*natal exposure matter.
- Much of the existing public health and economics work on the fetal origins hypothesis evaluate effects of *extreme, negative* shocks.
- The social safety net represents the opportunity to see if these effects translate to *positive* and *policy-driven* changes in resources.
- It may be very important to explore when treatment matters; prenatal and early childhood?

What we need to do this work

DATA

- Longitudinal
- Information about childhood circumstances

DESIGN

- Need a credible research design to evaluate the effect of the program

TIME

- To measure impacts of childhood experience on adult outcomes (→ challenge if policies need to be proven effective in a short term setting)

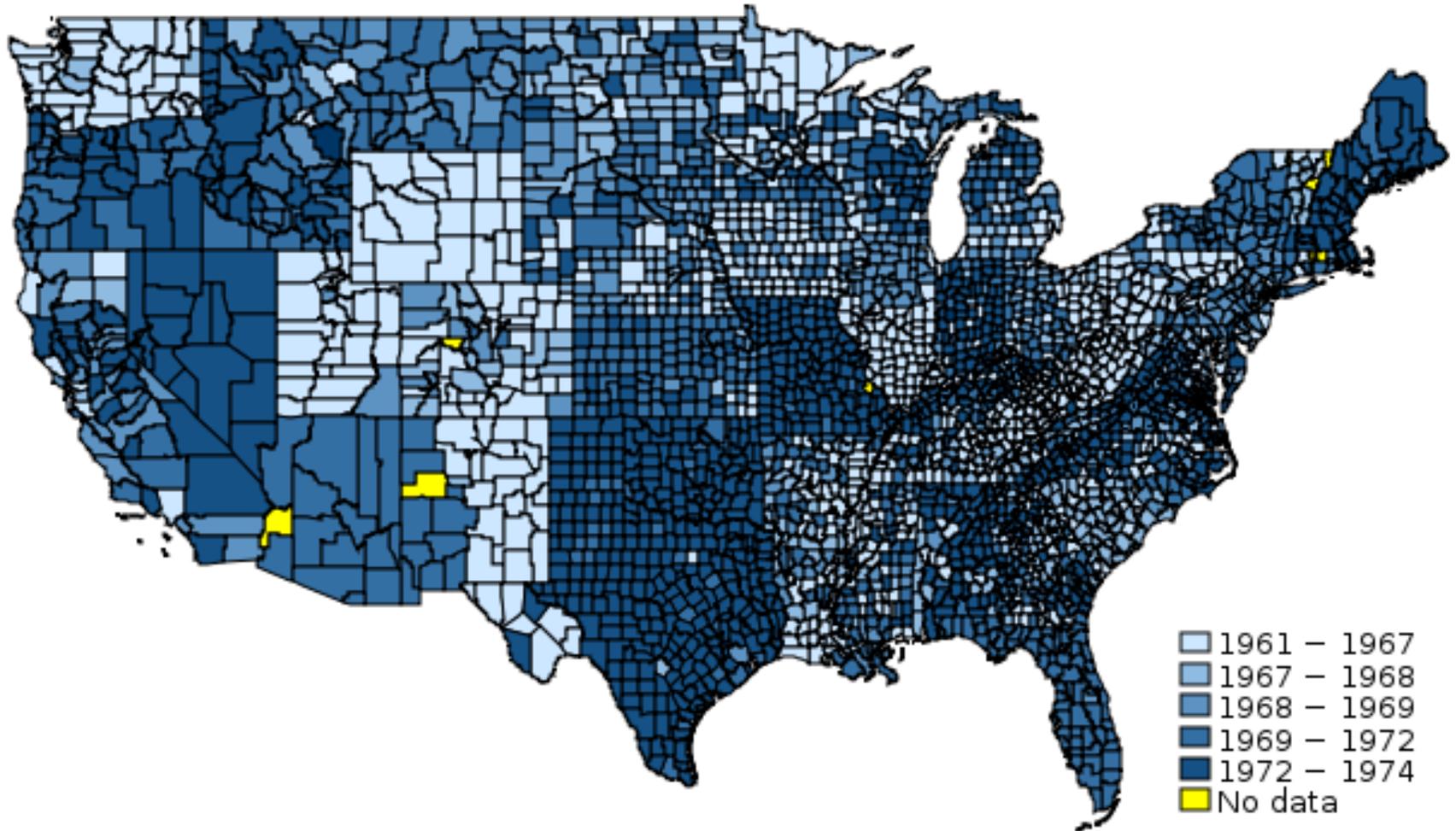
Almond, Hoynes & Schanzenbach
Research on the effects of SNAP using the
program rollout

Leveraging the Historical Rollout of SNAP

Joint Research with Doug Almond (Columbia) and Diane Schanzenbach (Northwestern)

- Use initial rollout of the Food Stamps, which took place across the approx. 3200 U.S. counties over 1961-1975
- Key markers in this history:
 - 1961: pilot programs launched by Pres. Kennedy
 - 1964: Food Stamp Act, voluntary adoption across counties (subject to funding)
 - 1975: universal coverage following the 1973 amendments
- This allows us to use a quasi-experimental research design; event study model and difference-in-difference
- We leverage variation in the rollout across counties over time while controlling for county, year, and a host of other potentially confounding effects (Hoynes and Schanzenbach 2009 document the validity of this approach)

Leveraging the Historical Rollout of SNAP



Food Stamps and Adult Health and Economic Well-Being

Hoynes, Schanzenbach and Almond (2016)

- Use initial rollout of the Food Stamps (1961-1975) to estimate the effects of access to food stamps in utero and during childhood on adult outcomes
- Because food stamps was introduced 50 years ago, the individuals who were children when the program was introduced are now adults, and we can statistically follow their progress in order to estimate the long-term impacts of access to SNAP during childhood on their completed education, earnings, and detailed health outcomes.
- We use event study and difference-in-difference models, comparing trends using county and year of birth
- Our design allows us to explore *when treatment matters*

How may FSP affect adult outcomes?

- FSP leads to increases in income and nutrition. Additionally, we build on the extensive literature linking early life influences to later life economic and health outcomes
- Economic outcomes: Heckman and others argue that investment in early childhood leads to higher returns to human capital than investments later in life
- Health outcomes: “Fetal origins” hypothesis, from developmental biology and Barker (1990) argues that there is a connection between fetal development and early “critical” periods (nutrition in particular) and chronic conditions in adulthood.
- Reductions in stress may be an alternative pathway. Recent work using credible designs shows that the SES/cortisol correlations may be causal and manipulated by policy (Aizer et al 2015, Evans and Garthwaite 2014, Fernald and Gunnar 2009, Haushofer et al 2012)

What does this theory predict for FSP introduction?

- Health: FSP leads to better nutrition in childhood → lower metabolic syndrome in adulthood
 - Expect lower incidence of obesity, cardiovascular disease, high blood pressure, type 2 diabetes
 - Both pre- and post-natal nutrition may matter
- Economic outcomes: increase in human capital (education, earnings)

Methodology

- Use variation across counties in difference-in-difference model:

$$y_{icbt} = \alpha + \delta FSP_{cb} + X_{icbt} \beta + \eta_c + \lambda_b + \gamma_t + \theta_s * b + \varphi CB60_c * b + \varepsilon_{icbt}$$

- Identification comes from variation across counties c and birth cohorts b in adoption of FSP
- Baseline models measure FSP treatment as the *percent of time between conception and age 5* that FSP was available in county of birth
- Control include fixed effects for county, birth cohort and interview year state specific linear time trends
 - X_{icb} = *individual controls* (gender, marital status, race, age) and *family background* (female head, education of head, income to needs – all in first 5 years of life)
- *SE clustered by county* and use PSID weights

Methodology (cont)

- Because of our many outcome variables, we follow Kling, Liebman and Katz (2007) and Anderson (2008) and estimate standardized indices that aggregate information over multiple outcomes.
- Aggregating multiple measures in a given area can improve statistical power
- We use two indices: *metabolic syndrome* and *economic self sufficiency*
- Each are an equal weighted average of the z-score of each component

$$y_i = \frac{1}{J} \sum_j \frac{y_{ij} - \mu_j}{\sigma_j}$$

- We use the mean and SD of “untreated cohorts” (born before 1962) in constructing the z-scores

Metabolic
Syndrome

- Obese (=1)
- High blood pressure (=1)
- Diabetes (=1)
- Heart disease (=1)
- Heart attack (=1)

Economic self-
sufficiency

- High school graduate (=1)
- Employed (=1)
- Not poor (=1)
- Not on TANF (=1)
- Not on food stamps (=1)
- Earnings
- Family income

Key result: Food Stamps in childhood and adult metabolic syndrome

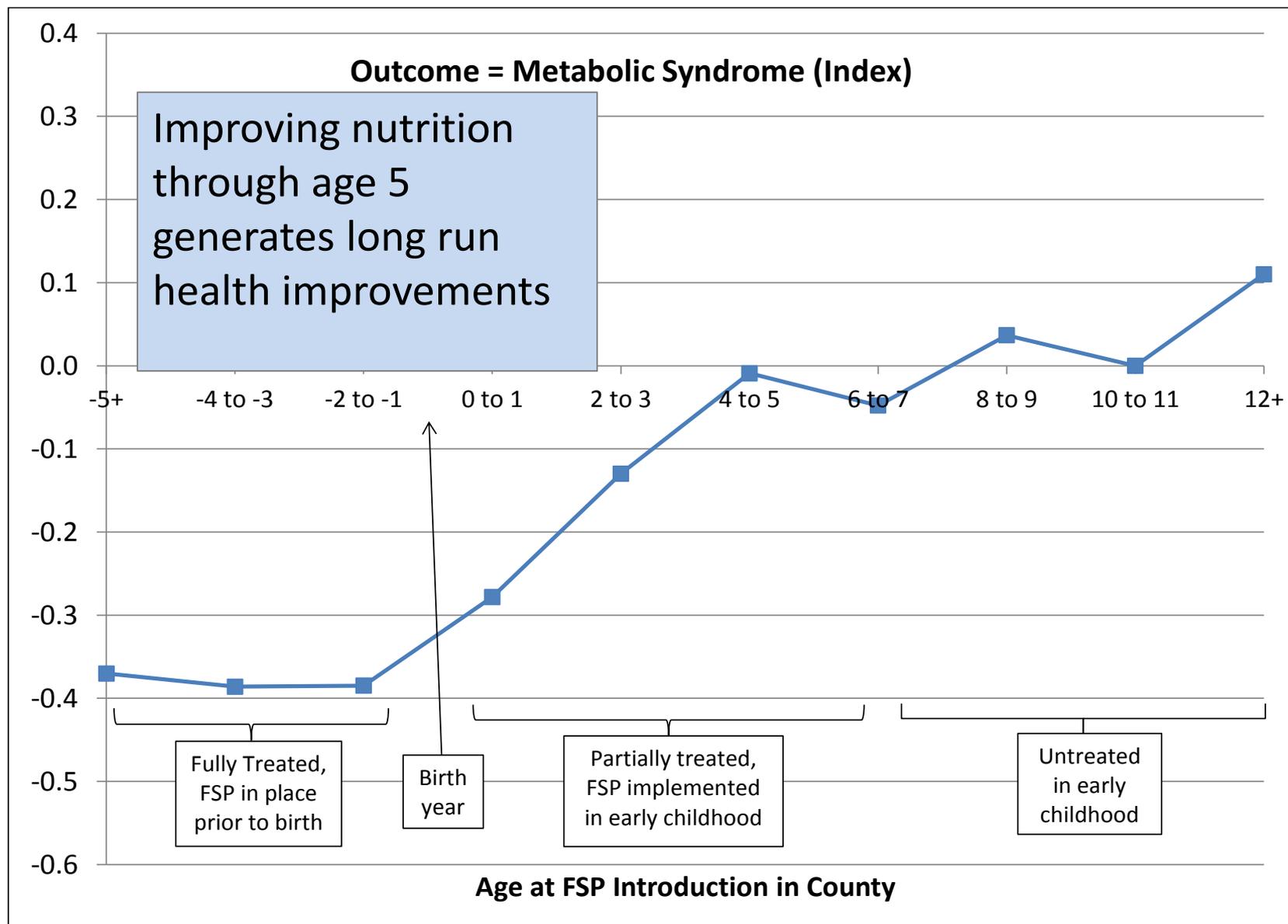
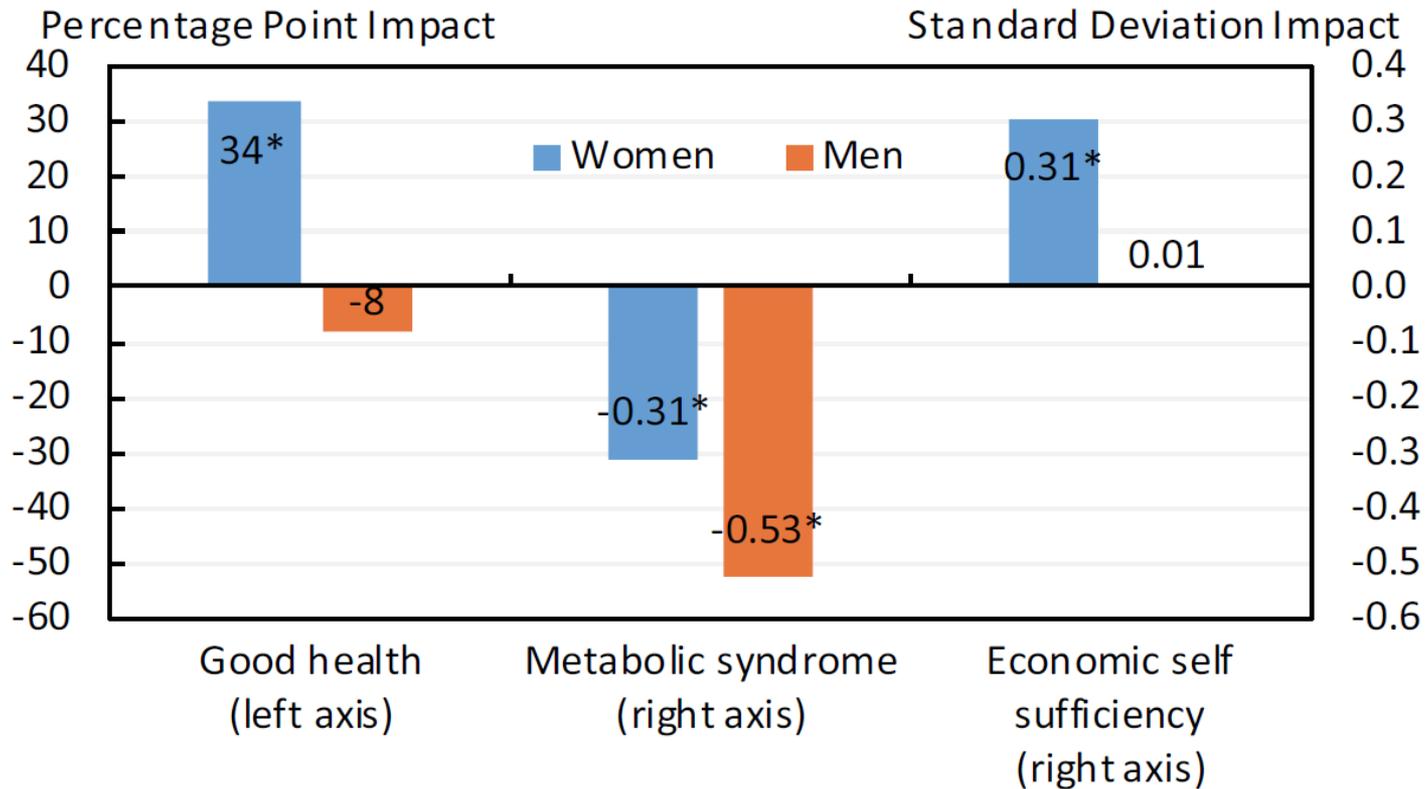


Figure 12: Long-Term Impacts of Exposure to Food Stamps as a Child

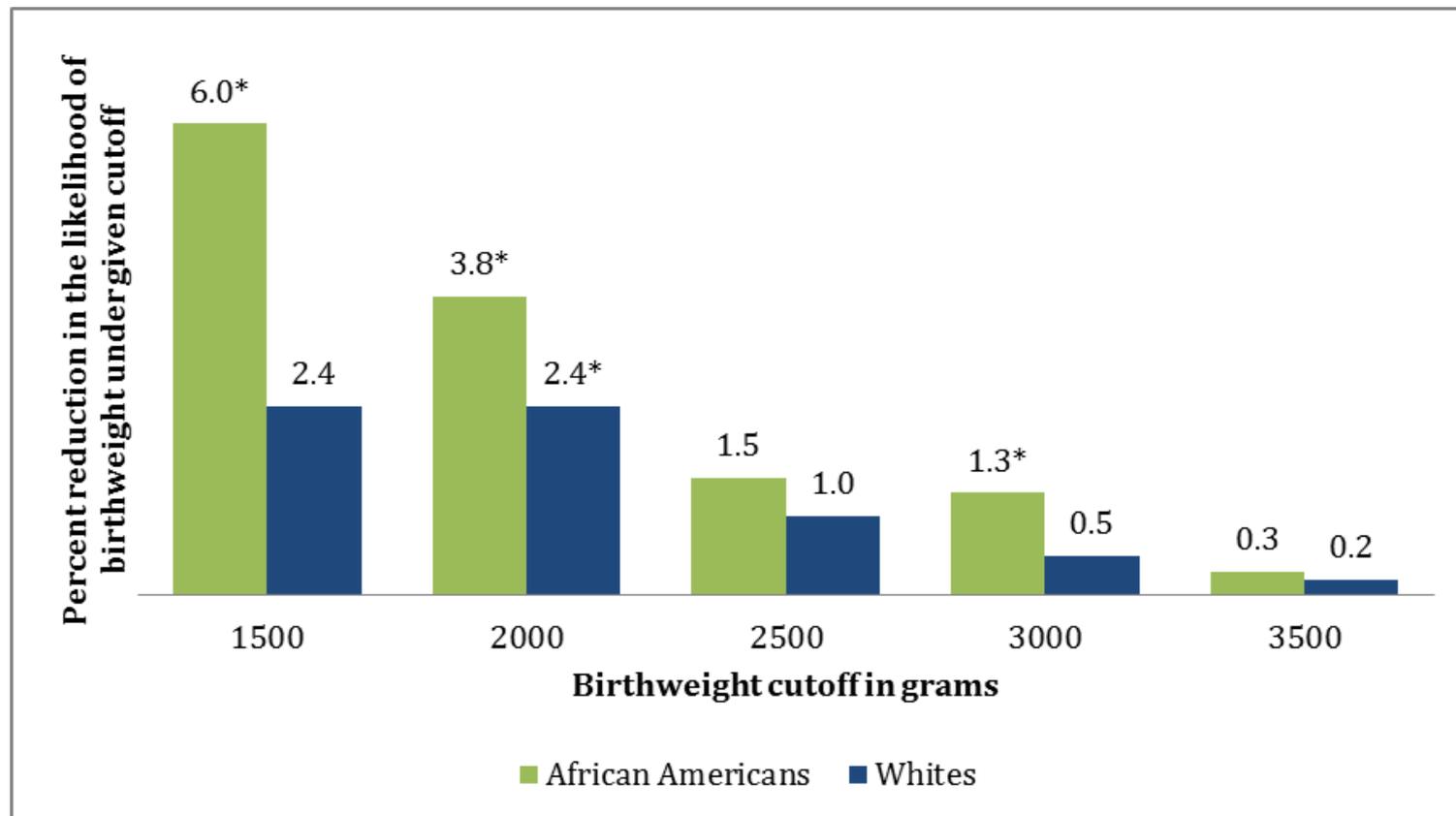


Note: * denotes statistically significant result; estimates are for a high-impact sample where the head of household had less than a high school education

Source: Hoynes, Schanzenbach, and Almond (forthcoming)

Impact of In Utero exposure to Food Stamps: Reduction in likelihood of birth weight below selected cutoffs

Percent Impacts (Coefficient / Mean)



Source; Almond, Hoynes and Schanzenbach, *Review of Economics and Statistics* 2011.

Next steps on the long term effects of SNAP

- *Bailey, Hoynes, Rossin-Slater, Walker*: 20% U.S. sample (Census) & ACS merged with SSA data on place of birth. Estimating effects of childhood exposure to food stamps to adult human capital, labor market outcomes, neighborhood / place, and mortality.

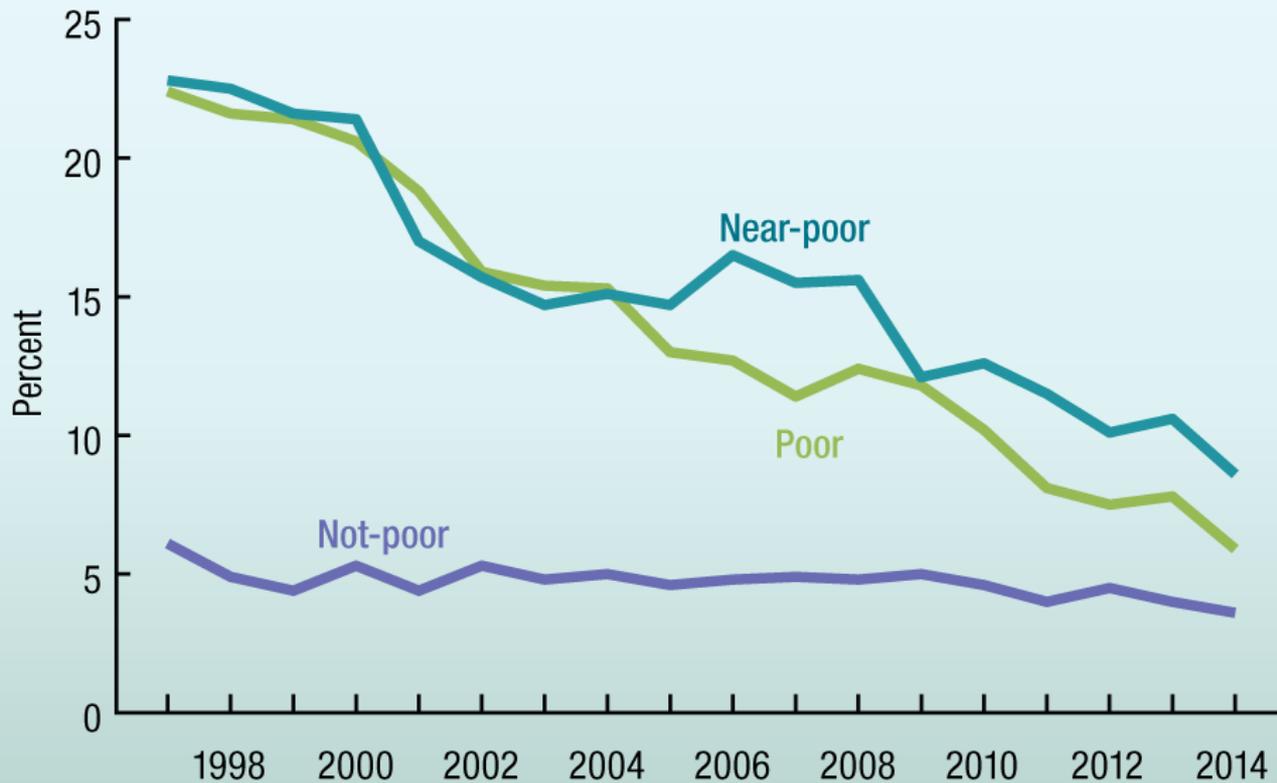
Zooming out: Other studies on the safety net as an investment

- As with our work, these studies examine the effect of childhood exposure to the social safety net on adult health and economic outcomes
- Much of this work is facilitated by quality administrative data and credible quasi-experimental research designs leveraging policy changes over prior decades

Medicaid

- Major increase in health insurance among children, through expansions to Medicaid and CHIP in the 1980s and 1990s.

**Children who were uninsured at the time of interview, by poverty status:
United States, 1997–2014**

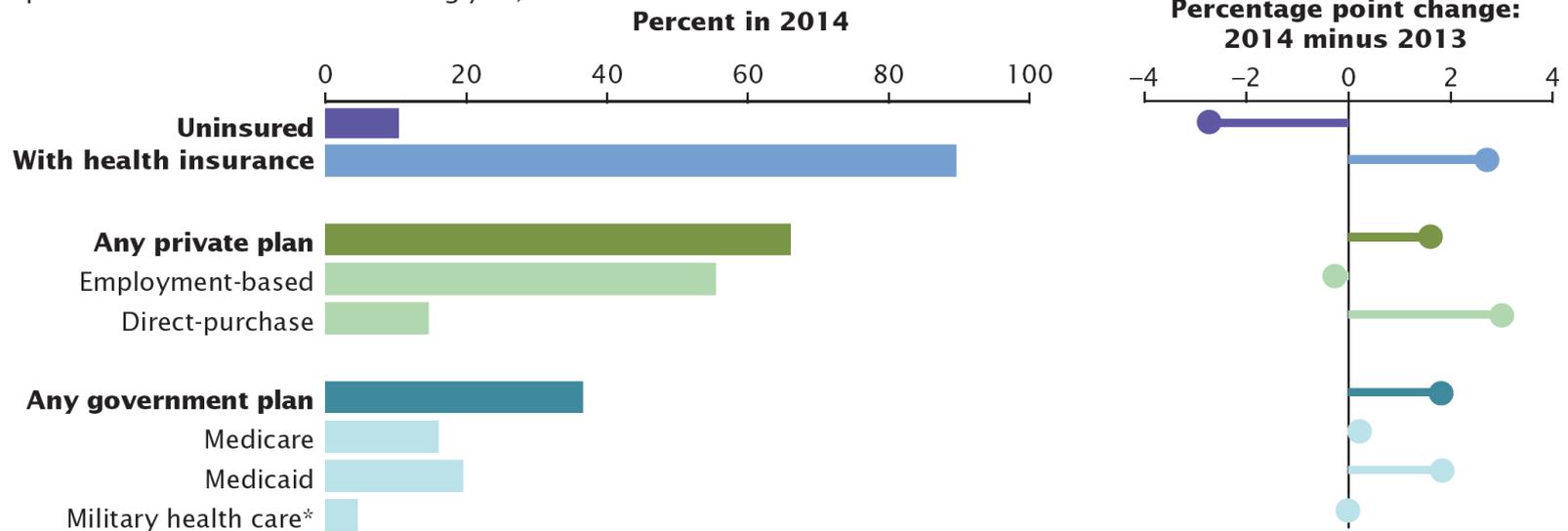


SOURCE: CDC/NCHS, National Health Interview Survey, 1997–2014.

Figure 2.

Percentage of People by Type of Health Insurance Coverage and Change From Last Year: 2014

(Population as of March of the following year)



- U.S. system a mix of public and private insurance
- 1) Government provided insurance
 - Medicare for the elderly (65+)
 - Medicaid (and CHIP) for low income (children, disabled, elderly, some nonelderly adults)
 - Veterans benefits
- 2) Privately provided insurance:
 - Employer provided health insurance (large)
 - Direct private purchase (small)
 - Obamacare exchanges

Figure 4.

Uninsured Rate by Single Year of Age: 2013 and 2014

(Civilian noninstitutionalized population)

2013
2014

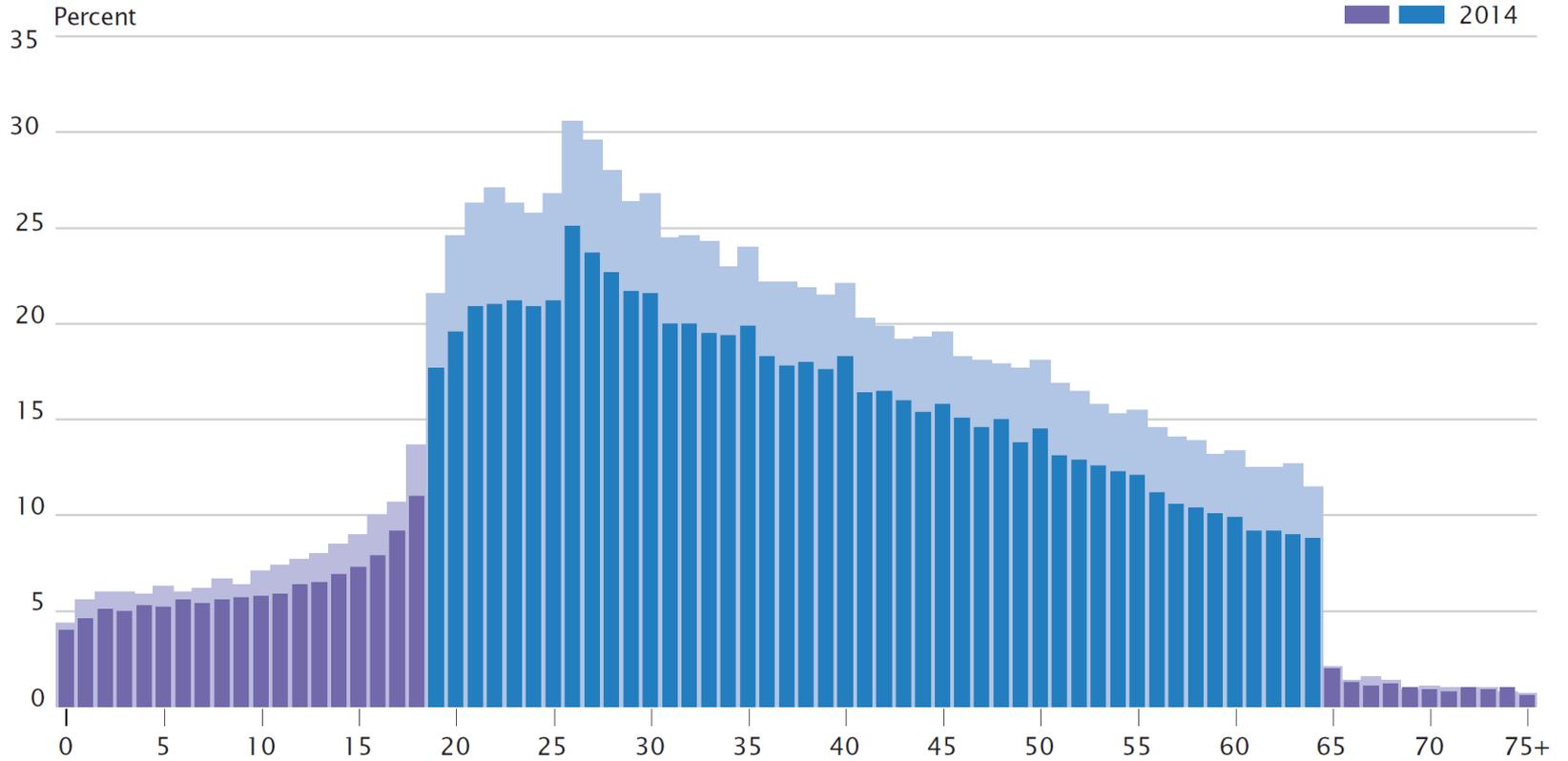
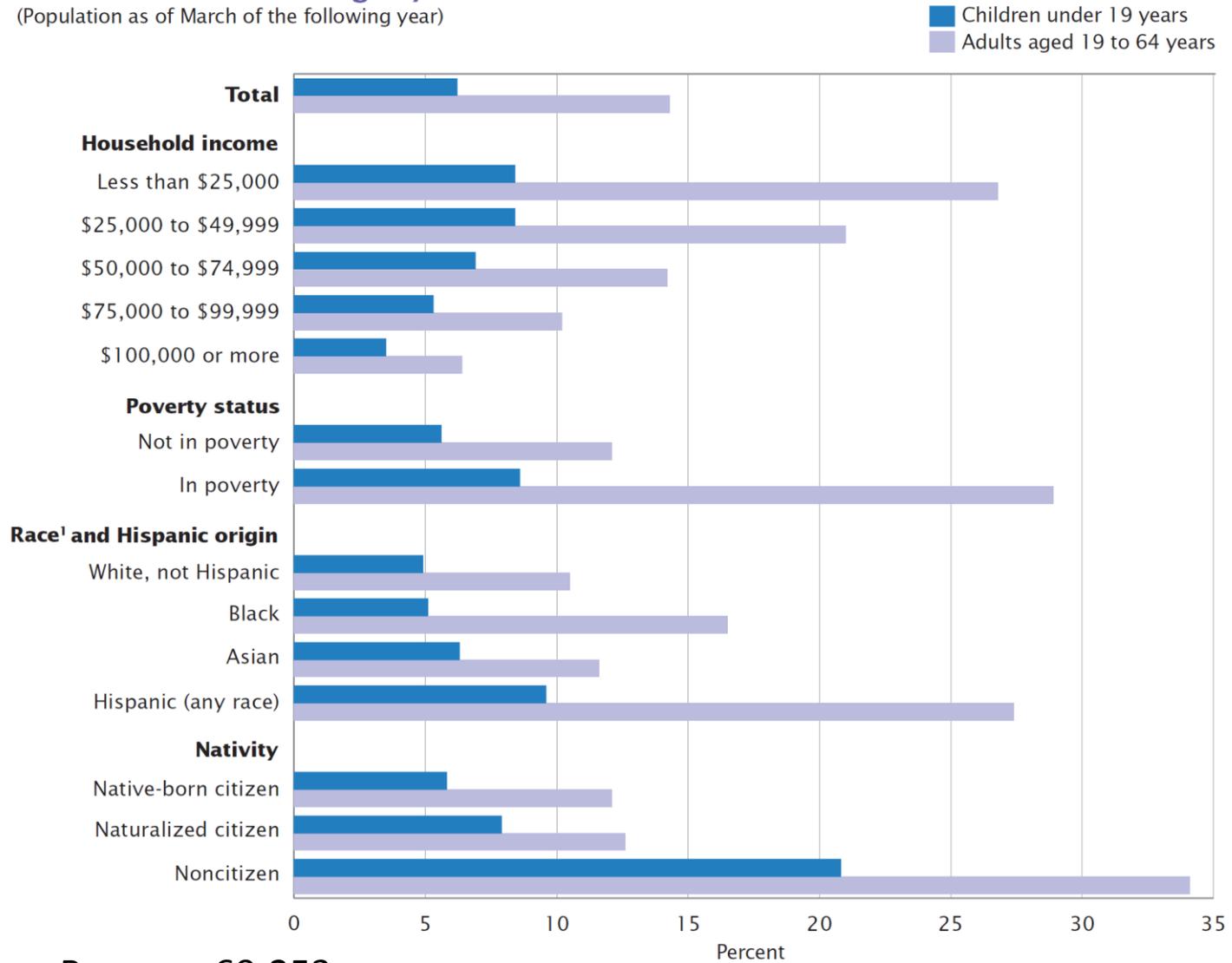


Figure 6.

Children Under 19 Years of Age and Adults Aged 19 to 64 Years Without Health Insurance Coverage by Selected Characteristics: 2014

(Population as of March of the following year)



Medicaid

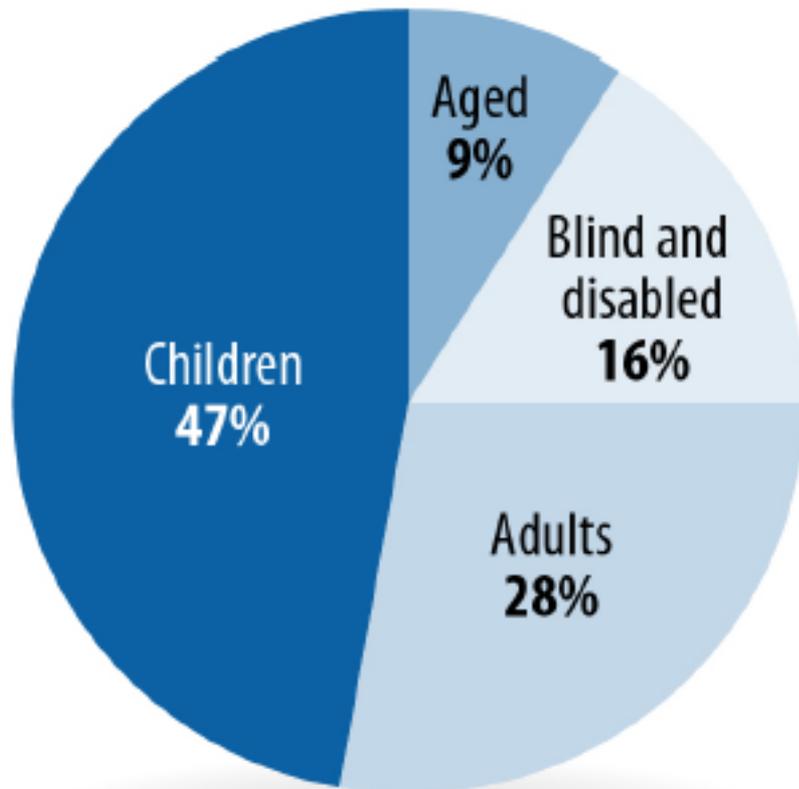
- Provides health care for low income (means-tested)
- Financed from general revenues (federal/state)
- Targets low income kids, SSI or TANF recipients, and elderly (for non-Medicare costs such as long-term care)
- 70% of recipients are mothers/kids but 66% of expenditure goes to long-term care for elderly.
- Doctor reimbursement low → some docs refuse Medicaid
- Big variation across states in Medicaid generosity
- Program eligibility criteria have been expanded over time (higher incomes allowed): Obamacare substantially expands Medicaid to reduce uninsured (but not all states will do it)

Medicaid expansions (for children)

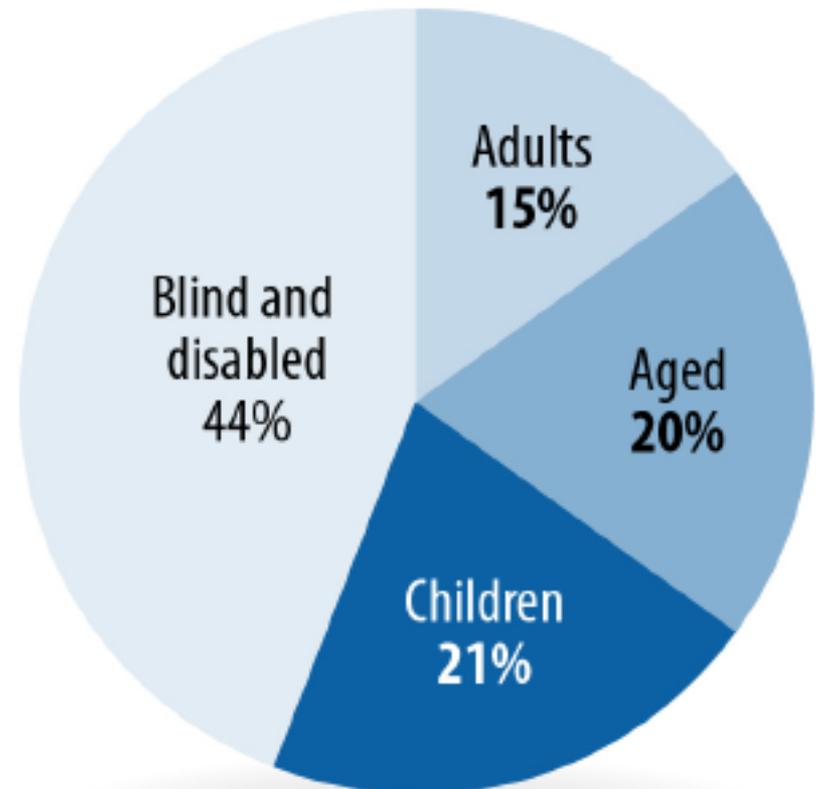
- Goals: extend Medicaid eligibility beyond those eligible for AFDC (“welfare lock”).
- DRA 1984: Required coverage for children (born after 9-30-83) if family is AFDC income eligible [1985: similar leg. for pregnant women]
- OBRA 1986: Permitted states to expand coverage for children and pregnant women with income below 100% poverty
- OBRA 1987: Permitted states to cover pregnant women and children < age 1 with family income below 185% poverty.
- OBRA 1989: Required states to cover pregnant women and children < 6 with family income below 133% poverty
- OBRA 1990: Required states to coverage children < 19 (born after 9-30-83) with family incomes below 100% poverty
- 1997 Further expansion through CHIP
- Research looks at how these expansions affect: coverage, health care utilization, and health outcomes; contemporaneous

Enrollment and Spending in Medicaid

Medicaid enrollment



Medicaid spending



Source: Spending estimates for FY2012 from the Congressional Budget Office's February 2013 Medicaid Baseline.

Long term effects of Medicaid

- New research shows explores the potential for long run effects of childhood exposure to Medicaid.
- Recent studies show that additional childhood exposure leads to:
 - Reductions in adolescent mortality, particularly for blacks (Wherry and Meyer 2016)
 - Reductions in hospital and ER visits in young adulthood; particularly visits for chronic conditions (Wherry et al 2015)
 - Increases in human capital, earnings, and tax payments (Brown et al 2014, Cohodes et al 2014)
- Initial state Medicaid rollout (late 1960s) shows that additional childhood exposure leads to better adult health, labor market and human capital (Bacon-Goodman 2016)

Quasi-Experimental research designs used to estimate long term effects of Medicaid

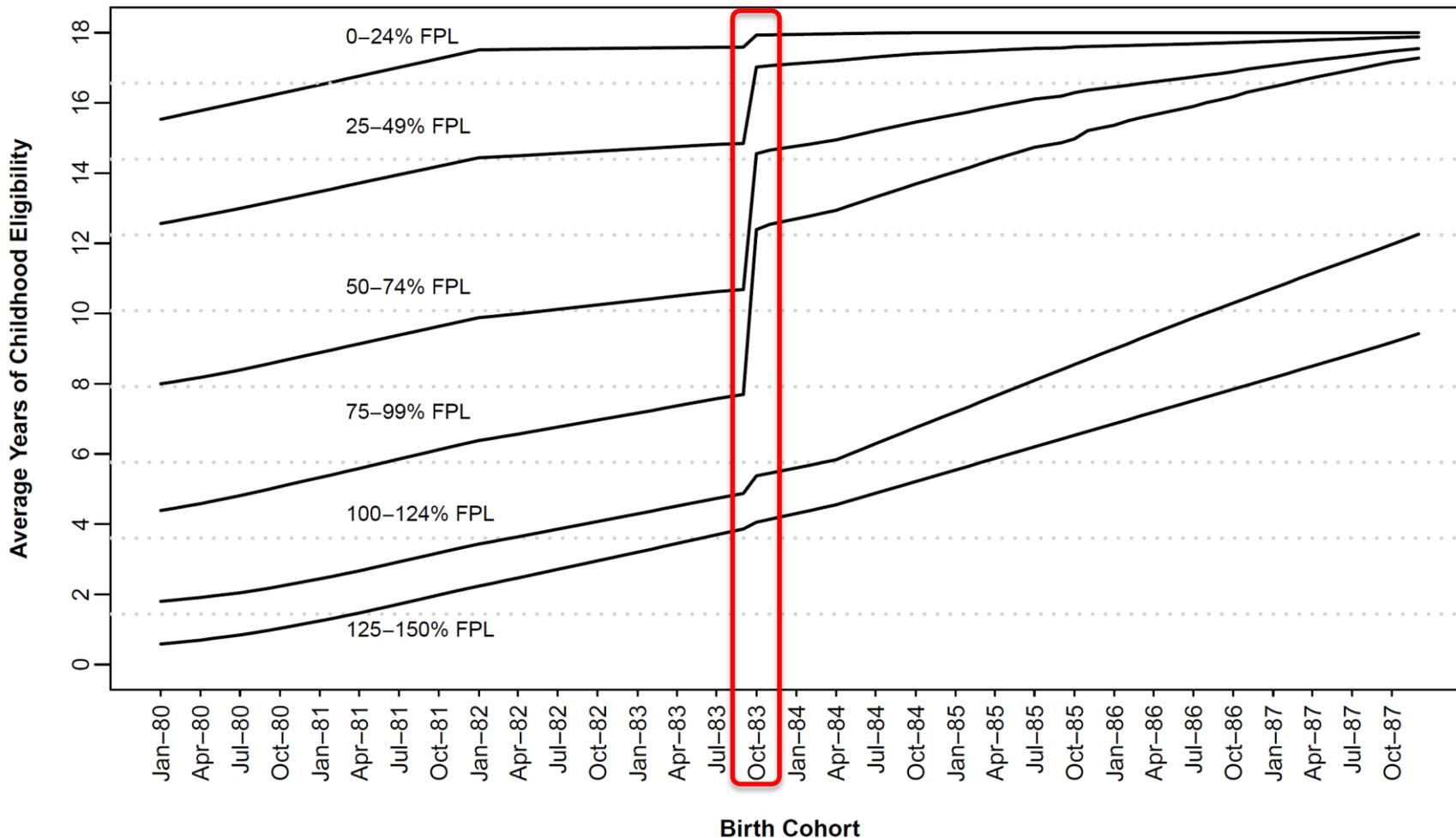
1. Kowalski (and coauthors) – relate Medicaid coverage for birth to age 18 and variation across state and over birth cohorts; use the universe of tax record to look at outcomes at ages 19-28: earnings, college going, EITC, mortality
2. Meyer (and coauthors) – focus on sharp discontinuity between births just before and after Oct 1983 when the Medicaid expansions first kicked in. Examine impacts on mortality.

Meyer and Wherry, LT effects of Medicaid

- Medicaid expansions: Extended eligibility only to children born after September 30, 1983.
- The change in eligibility occurred when these cohorts were almost 8 years of age
- Children in families with incomes at or just below the poverty line gained close to five additional years of eligibility if they were born in October 1983 rather than just one month before.
- This gain in eligibility occurred between the ages of 8 and 14
- This approach can not get at the effects of coverage in EARLY life.

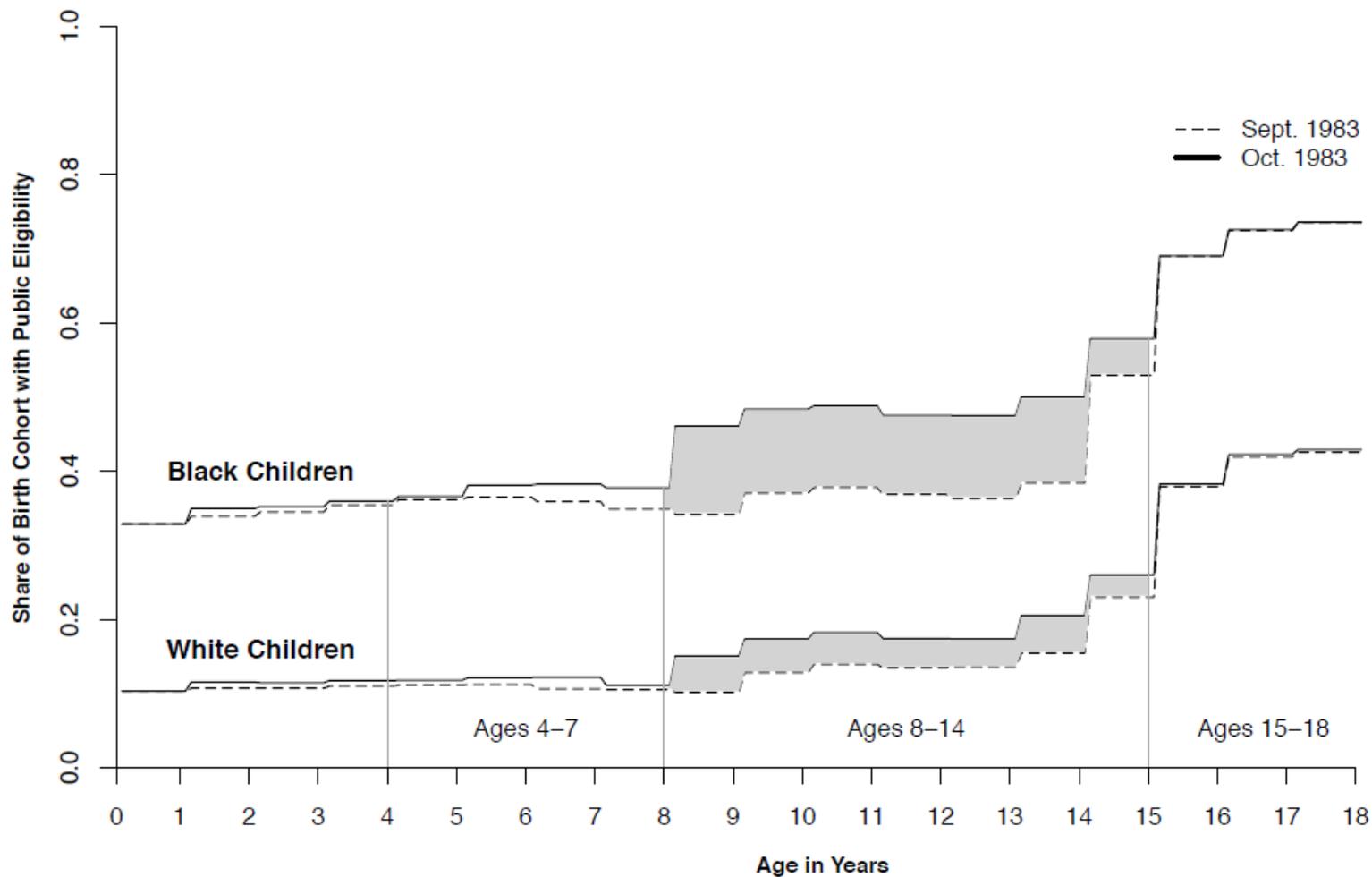
Regression Discontinuity in Meyer and Wherry

Figure 1. Average Years of Childhood Eligibility for Medicaid/SCHIP by Birth Cohort and Family Income (%FPL)



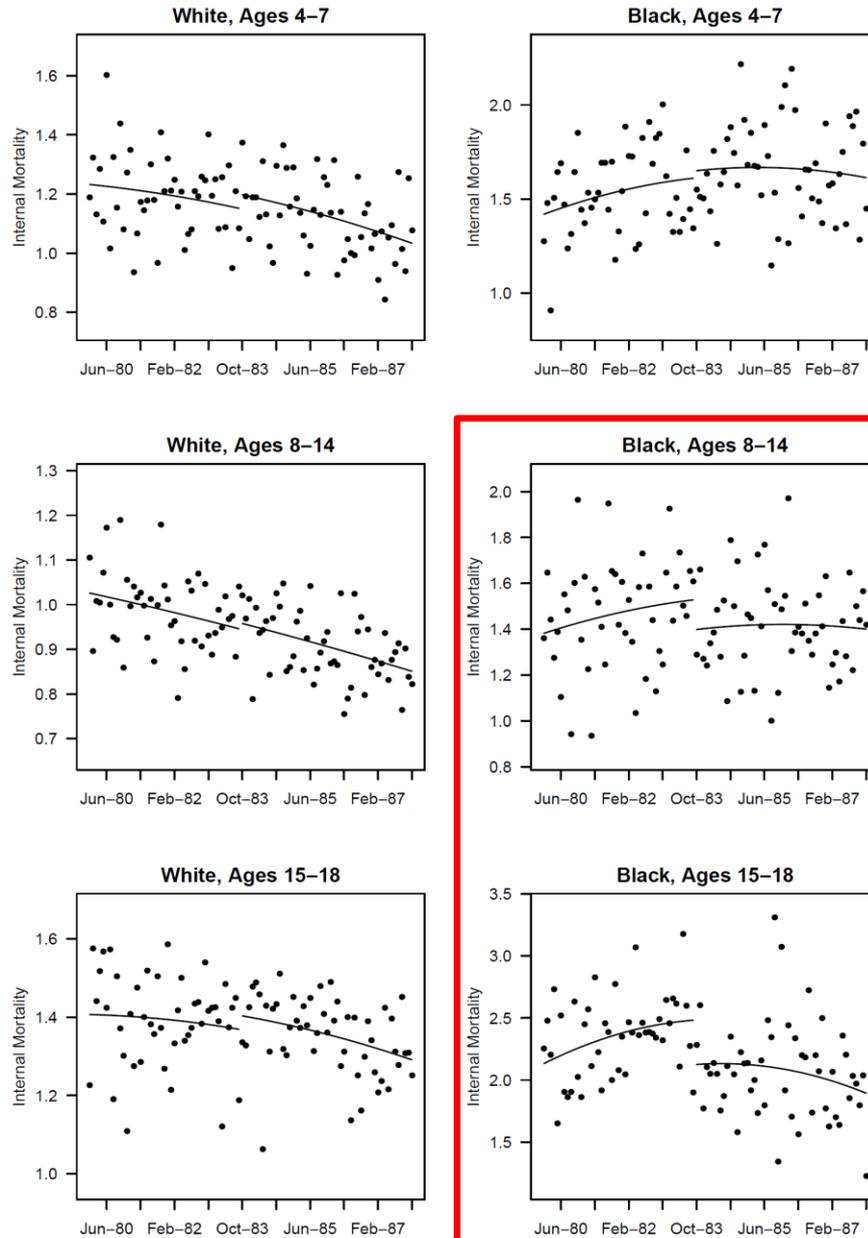
Notes: Weighted average calculated using the characteristics and state of residence of a sample of children of ages 0–17 in the 1981–1988 March CPS. See text for more information. Family income is indexed using the CPI-U and assumed to be constant over the child's lifetime.

Figure 2. Average Public Eligibility at Each Age of Childhood by Birth Month Cohort and Child Race



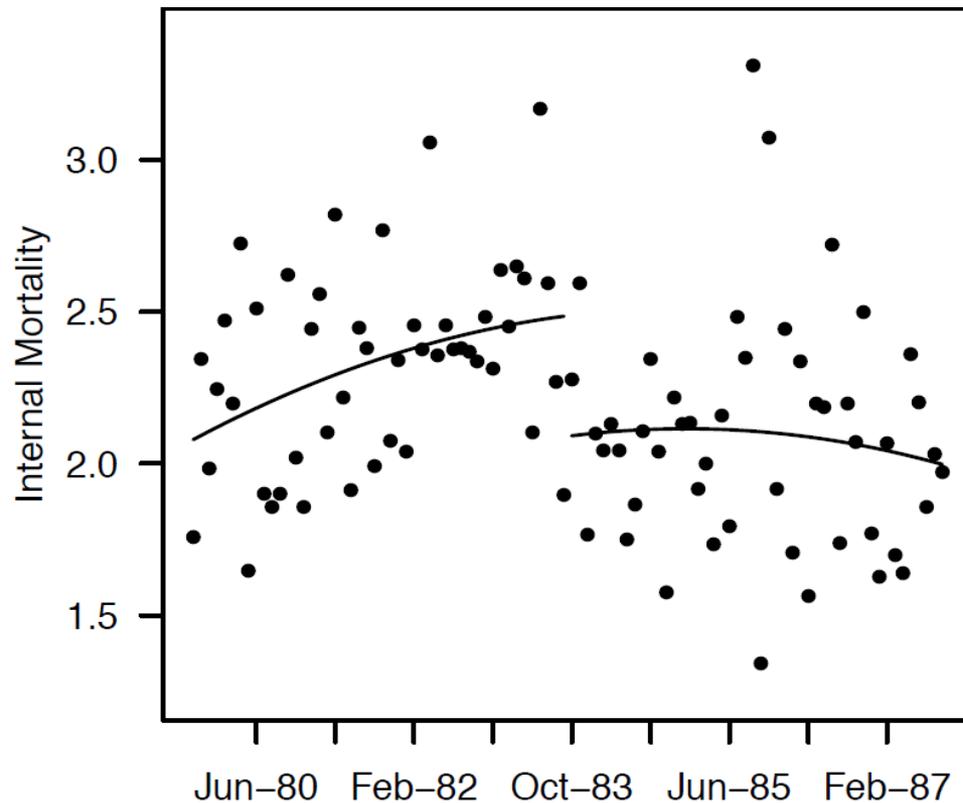
Notes: Weighted average calculated using the characteristics and state of residence of a sample of black or white children of ages 0–17 in the 1981–1988 March CPS. See text for more information. Family income is indexed using the CPI-U and assumed to be constant over the child’s lifetime.

Figure 9: Child Mortality from Internal Causes by Child Race



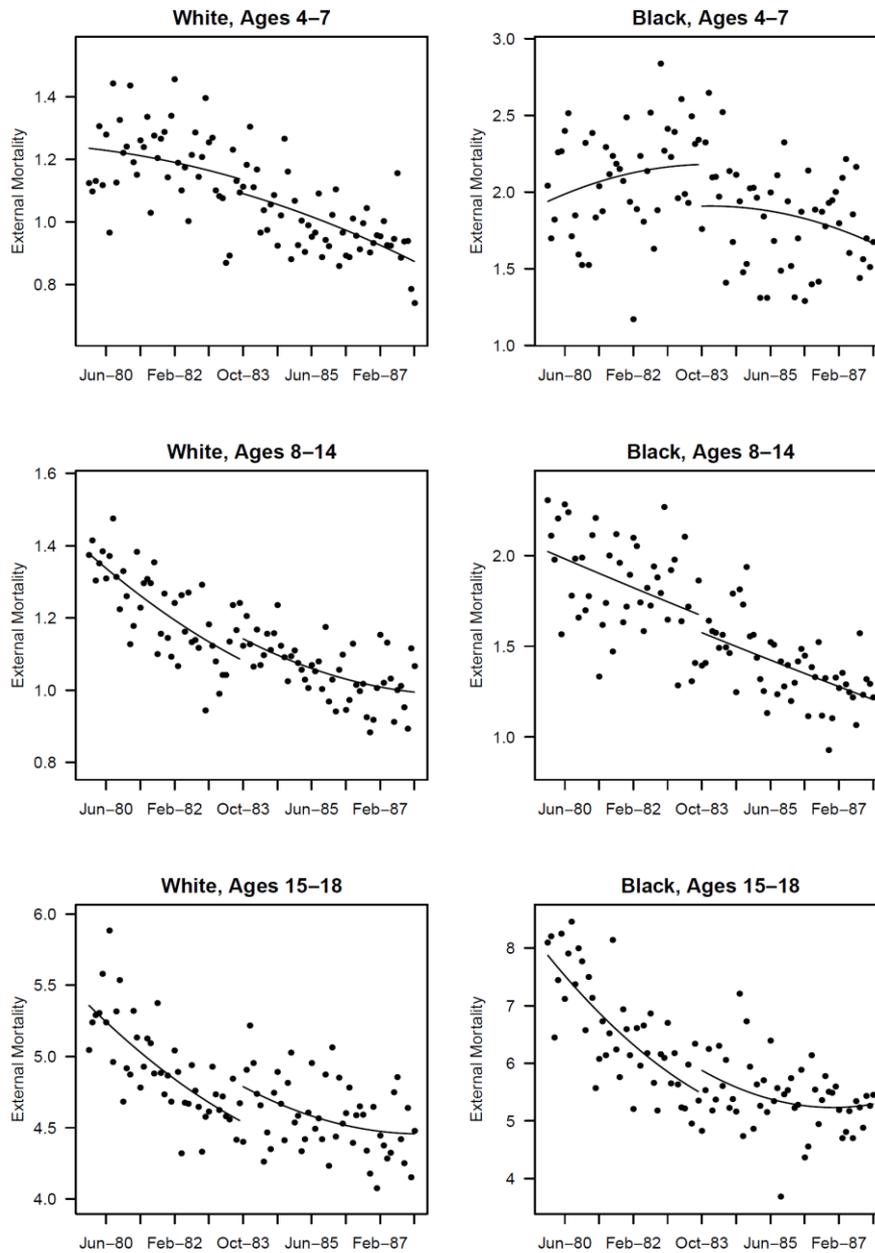
Child Mortality from Internal Causes

Black, Ages 15–18



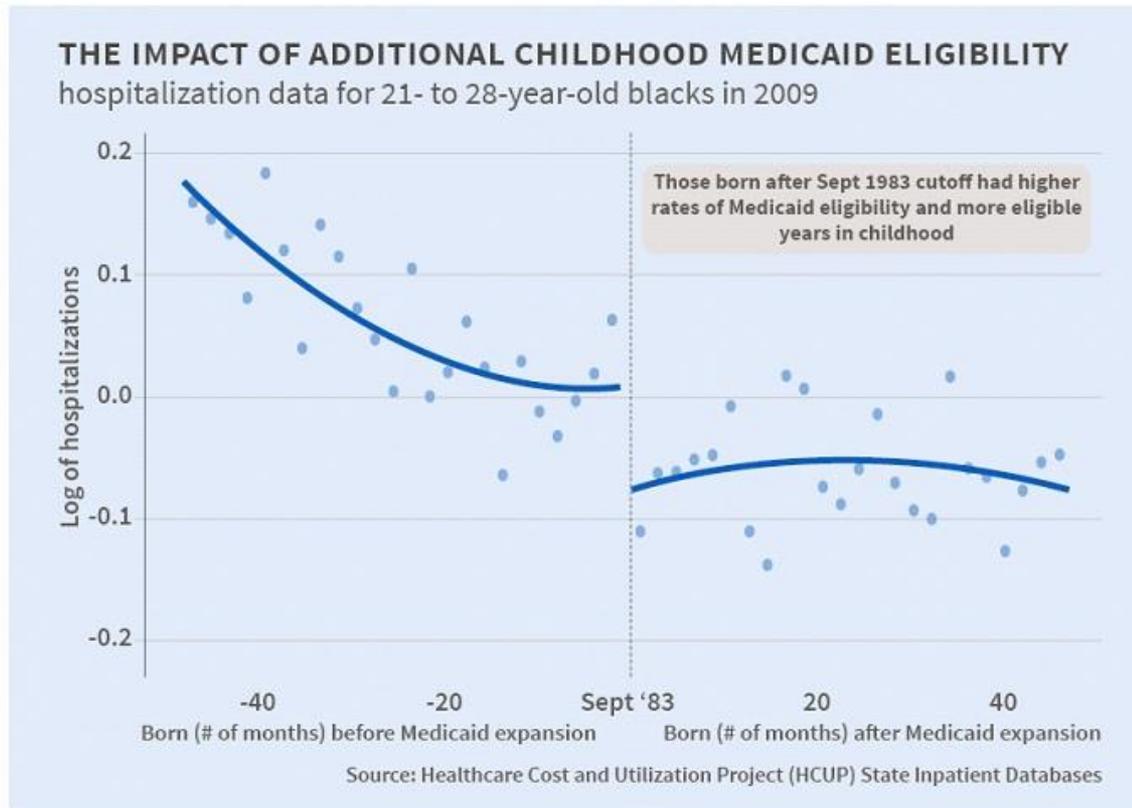
Those born after Oct 1983 triggered large Medicaid coverage gains through the 1990 policy expansion → Lower mortality in late adolescence

Figure 10: Child Mortality from External Causes by Child Race



No effects on external causes

Number of Hospitalizations Among 21-28 Year-Old African-Americans in 2009, by Birth Month



In follow up work these authors find that those with higher Medicaid coverage and lower late teen mortality rates have lower rates of hospitalization in young adulthood

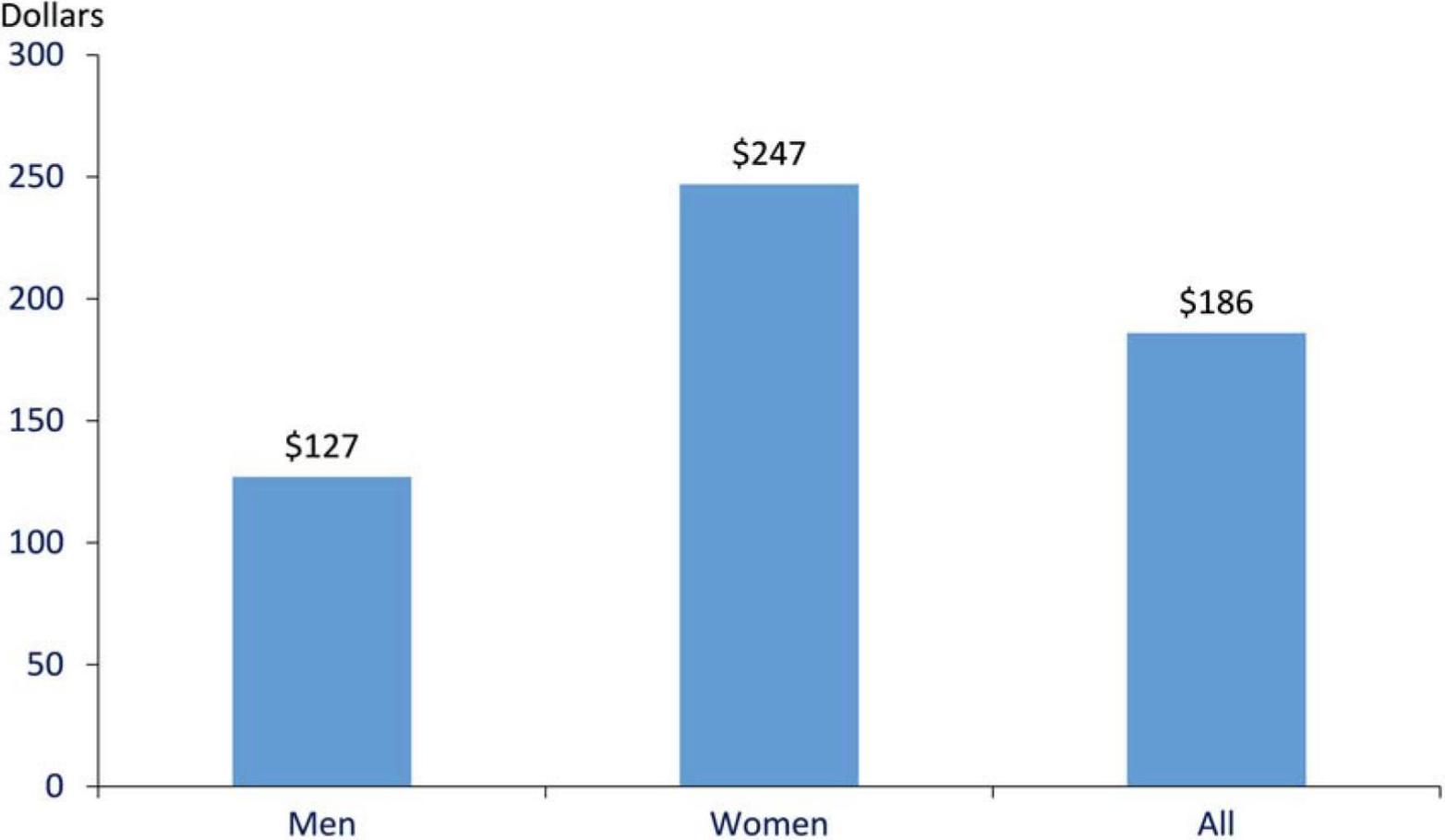
Kowalski et al, LT effects of Medicaid

- OBRA led to changes in the timing and extent of expansions across state, year, and birth cohorts.

Table 3: State Medicaid Age and Income Eligibility Thresholds for Children.

State	<u>January 1988</u>		<u>December 1989</u>		<u>December 1991</u>		<u>December 1993</u>	
	Age	Medicaid	Age	Medicaid	Age	Medicaid	Age	Medicaid
Alabama			1	185	8	133	10	133
Alaska			2	100	8	133	10	133
Arizona	1	100	2	100	8	140	12	140
Arkansas	2	75	7	100	8	185	10	133
California			5	185	8	185	10	200
Colorado			1	75	8	133	10	133
Connecticut	0.5	100	2.5	185	8	185	10	185
Delaware	0.5	100	2.5	100	8	160	18	185
D.C.	1	100	2	100	8	185	10	185
Florida	1.5	100	5	100	8	150	10	185
Georgia	0.5	100	3	100	8	133	18	185
Hawaii			4	100	8	185	10	185
Idaho			1	75	8	133	10	133
Illinois			1	100	8	133	10	133
Indiana			3	100	8	150	10	150
Iowa	0.5	100	5.5	185	8	185	10	185
Kansas			5	150	8	150	10	150
Kentucky	1.5	100	2	125	8	185	10	185
Louisiana			6	100	8	133	10	133
Maine			5	185	8	185	18	185
Maryland	0.5	100	6	185	8	185	10	185
Massachusetts	0.5	100	5	185	8	185	10	200

Increase in Income and Payroll Taxes Paid Through Age 28 from an Additional Year of Medicaid Eligibility in Childhood



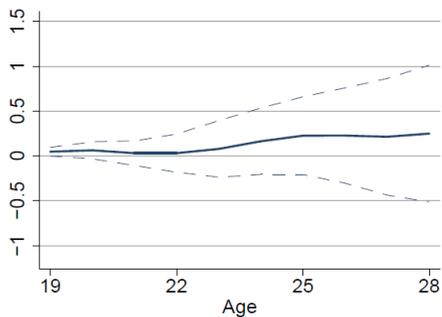
Source: Brown, Kowalski, and Lurie (2015).
Note: Cumulative tax payments based on earnings through age 28.

Key Results from Kowalski (Tax Data)

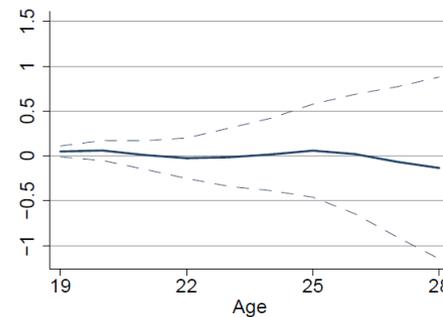
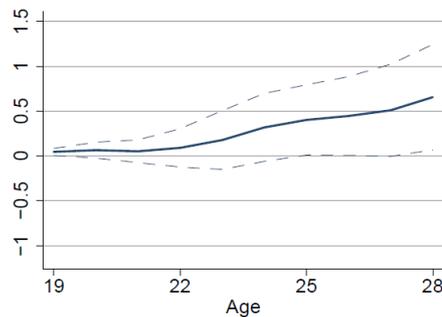
All

Female

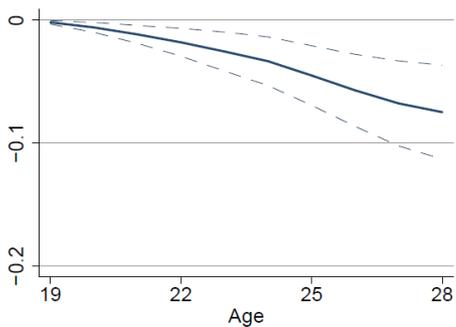
Male



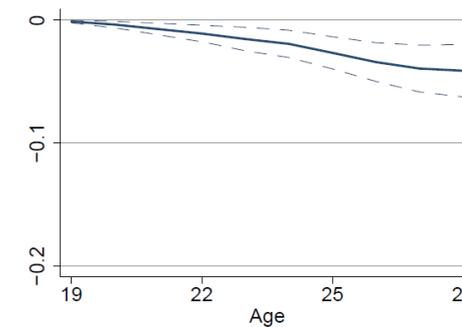
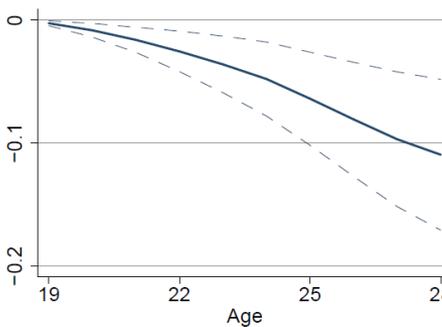
IV Coefficient, With Controls



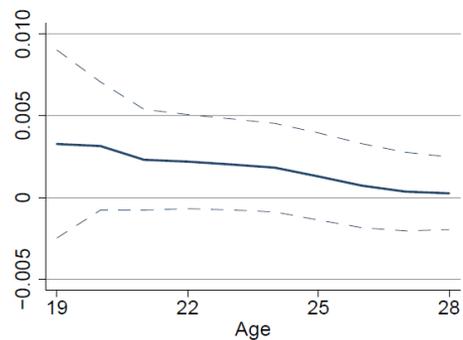
Annual earnings (\$1000)



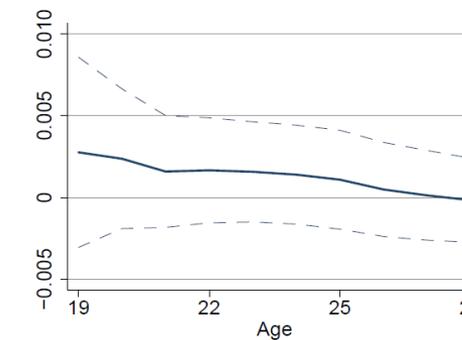
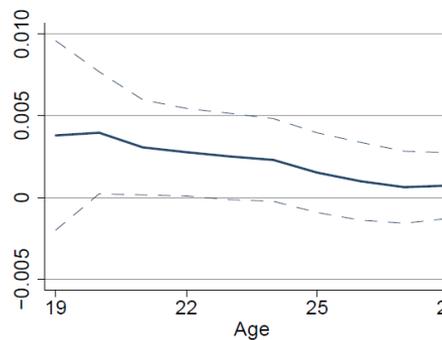
IV Coefficient, With Controls



EITC (\$1000)



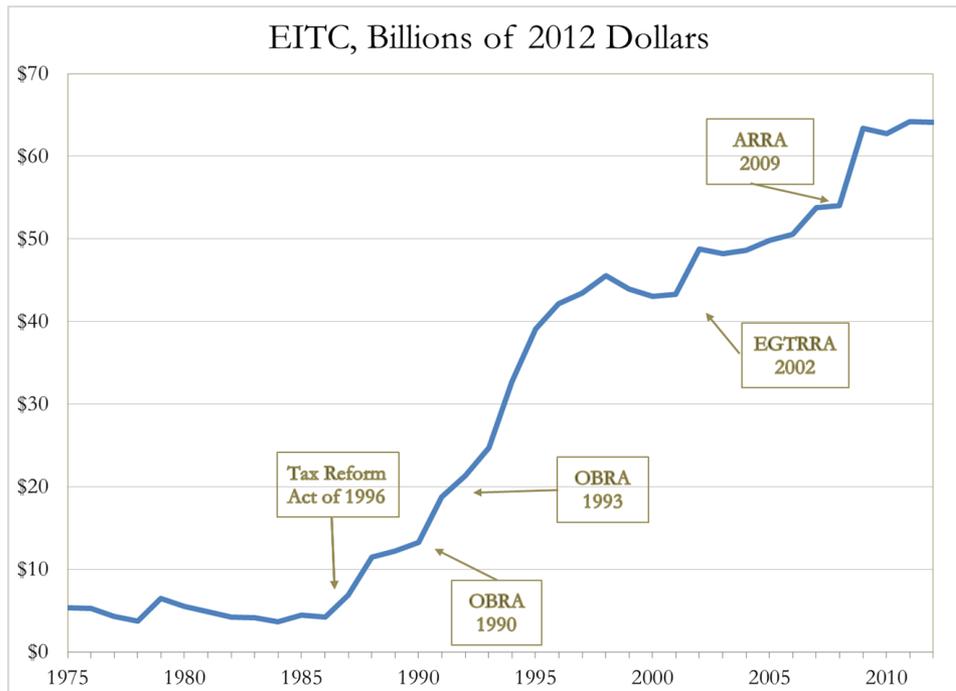
IV Coefficient, With Controls



Any college

Earned Income Tax Credit

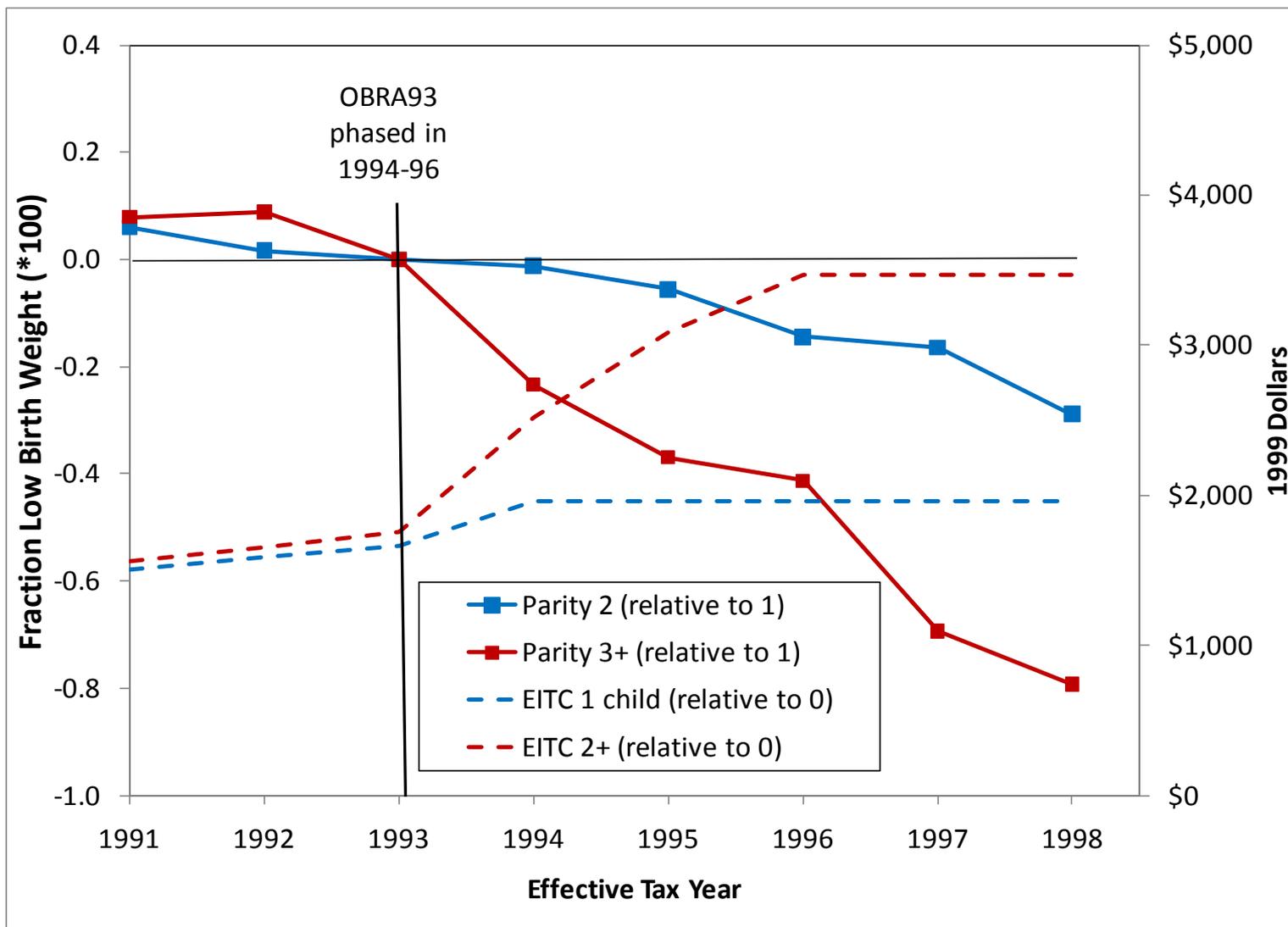
- Large expansion to the EITC in the mid 1990s
- In 2014, almost 20 percent of all tax filers and 44 percent of filers with children receive the credit.
- Average credit amount is \$2300



Earned Income Tax Credit

- Recent studies show that the additional income due to the EITC leads to:
 - Increases in infant health (Hoynes et al 2015, Strully et al 2010) and maternal health (Evans and Garthwaite 2014)
 - Improves children's cognitive outcomes, test scores (Dahl and Lochner 2012, Chetty et al 2011)
 - Increases in educational attainment (Michelfiore 2013, Manoli and Turner 2014)

Effect of 1993 EITC expansion on low birth weight



Source: Hoynes, Miller and Simon (2015) *American Economic Journal: Economic Policy*, Forthcoming. Estimates are for single mothers with a high school degree or less.

Next steps for long term effects of EITC

- *Figlio, Hoynes, Karbownik and Simon*: Administrative Florida K-12 school data, linked to birth certificate data. Estimating the contemporaneous and cumulative effect of the EITC on child development and behavioral outcomes.

Minimum Wages

PP290

Hilary Hoynes

From: **California Budget & Policy Center** contact@calbudgetcenter.org
Subject: **On Our Blog - California's \$15 Minimum Wage: What We Know and Don't Know**
Date: April 13, 2016 at 10:15 AM
To: hoynes@berkeley.edu



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April 13, 2016

[New on California Budget Bites](#)

California's \$15 Minimum Wage: What We Know and Don't Know

The California Budget & Policy Center today published a new post by Senior Policy Analyst Alissa Anderson and Executive Director Chris Hoene on our blog, California Budget Bites.

Outline of Lecture

1. Background + facts
2. Theory and MW
3. Empirical Evidence on the MW
 - Card and Krueger, Dube on employment
 - Poverty and income inequality
4. Why might we not find a reduction in employment?
5. Current Policy Issues
6. Tradeoffs in policy (MW, EITC, welfare)

Fight Over Minimum Wage Illustrates Web of Industry Ties

By ERIC LIPTON FEB. 9, 2014

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State of the Union 2014: Obama to raise minimum wage for federal workers

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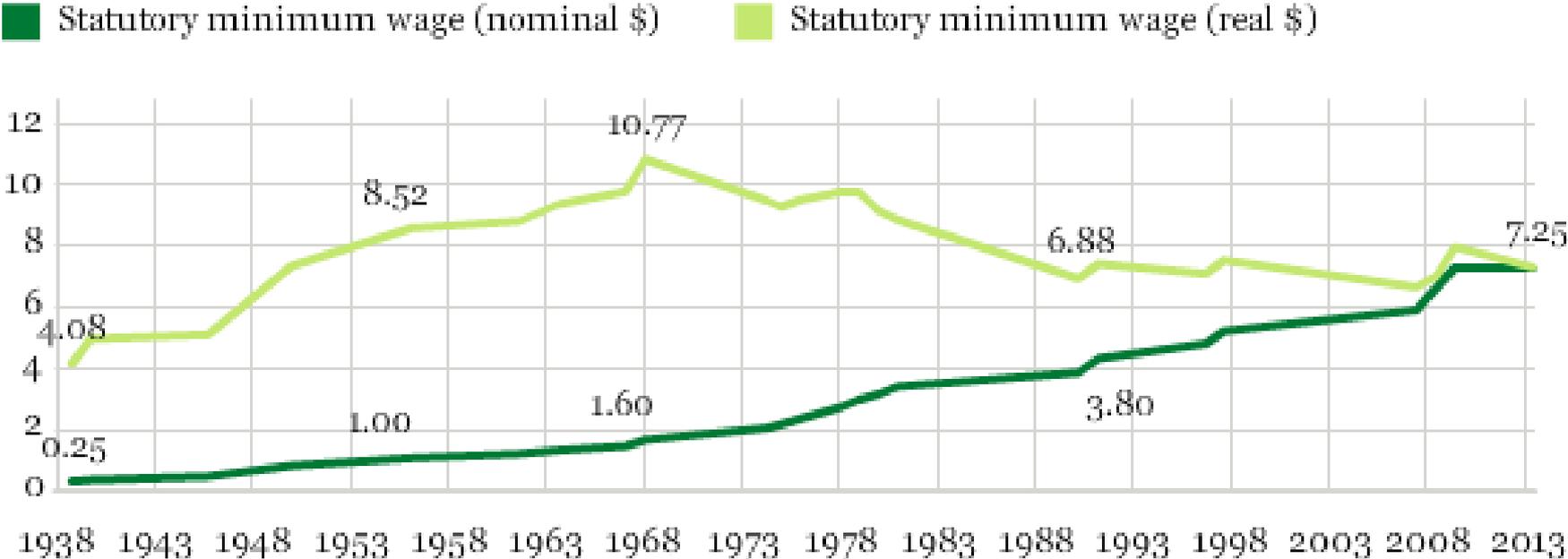
METRO LITTLE ROCK ALLIANCE

Calif



Ballot measure raising minimum wage to \$12 an hour is proposed

Minimum Wage -- Real and Nominal Value, 1938-2013

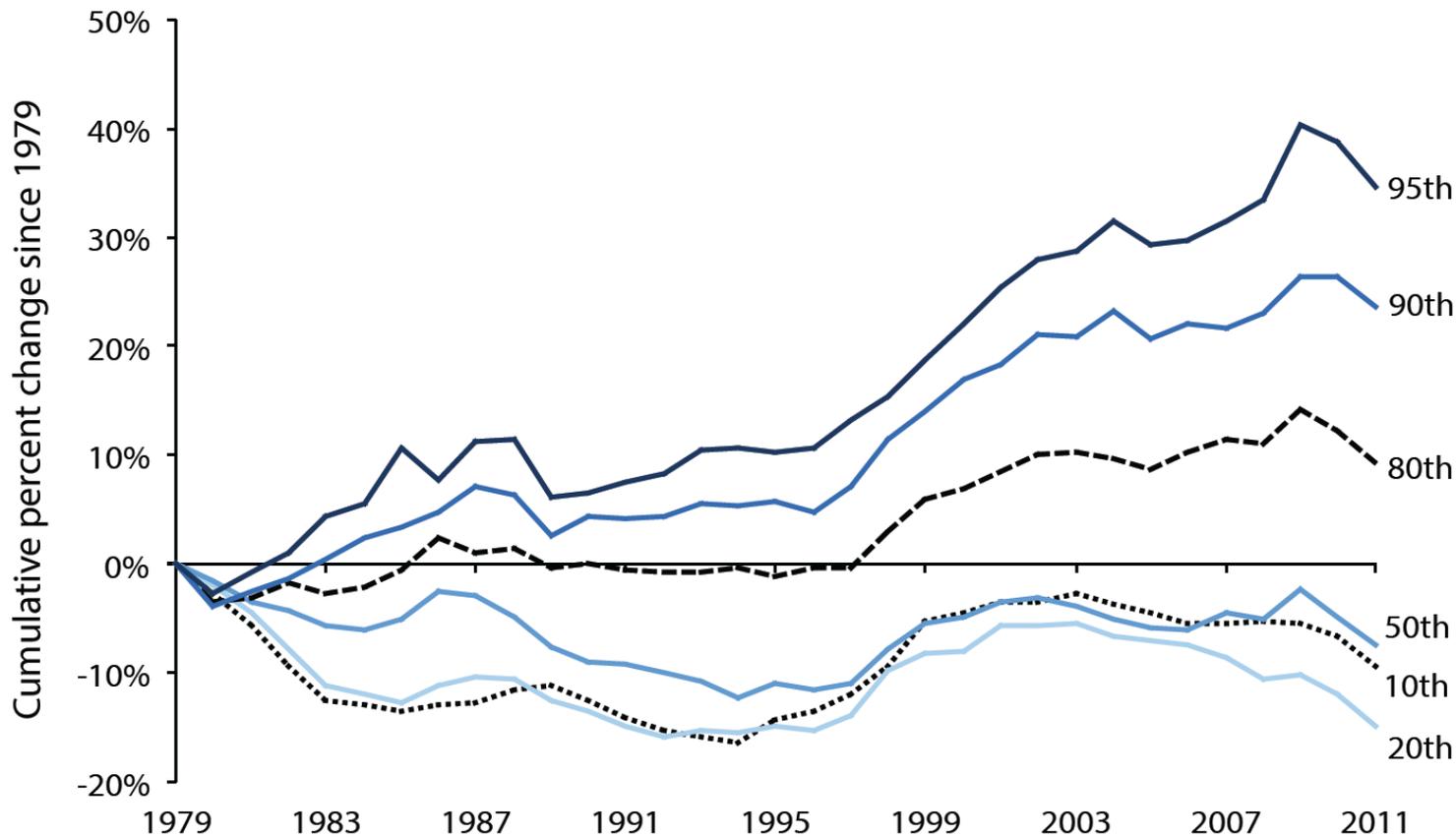


Source: Congressional Research Service, U.S. Department of Labor

GALLUP

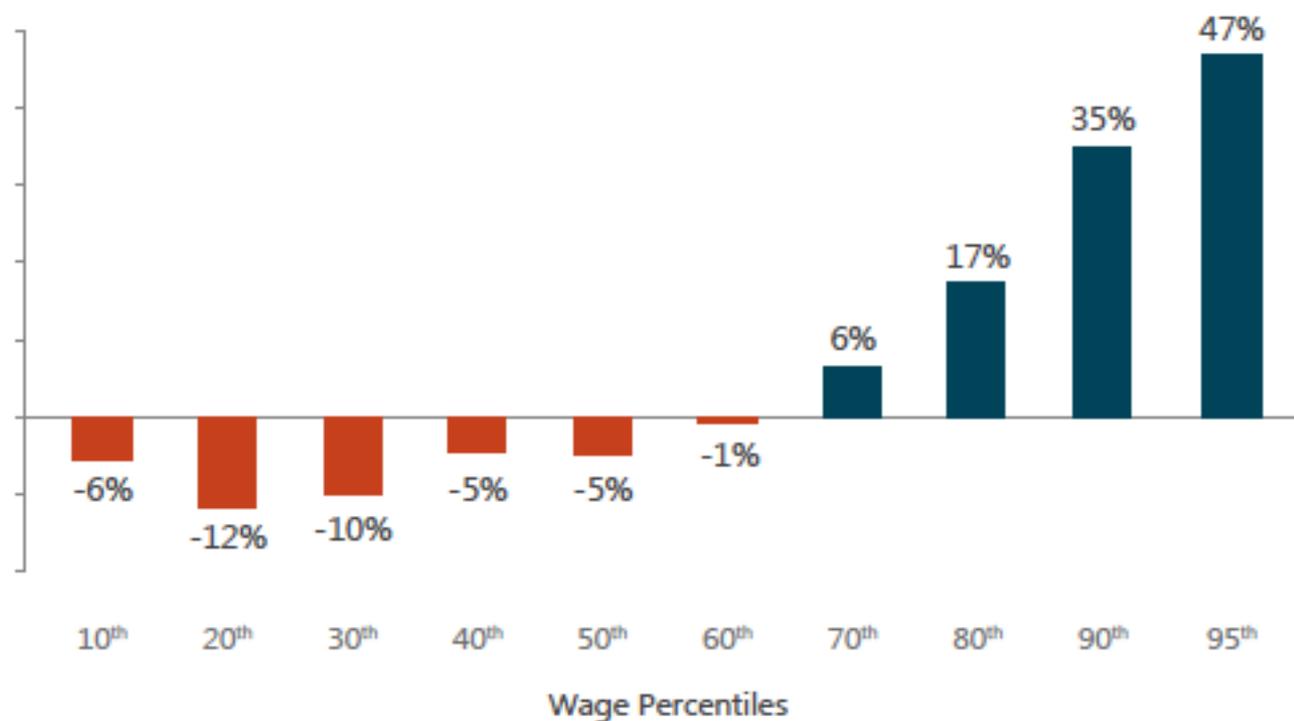
Source: EPI "Raising the federal minimum wage..."

Figure 4C Cumulative change in real hourly wages of men, by wage percentile, 1979–2011



Source: Authors' analysis of Current Population Survey Outgoing Rotation Group microdata

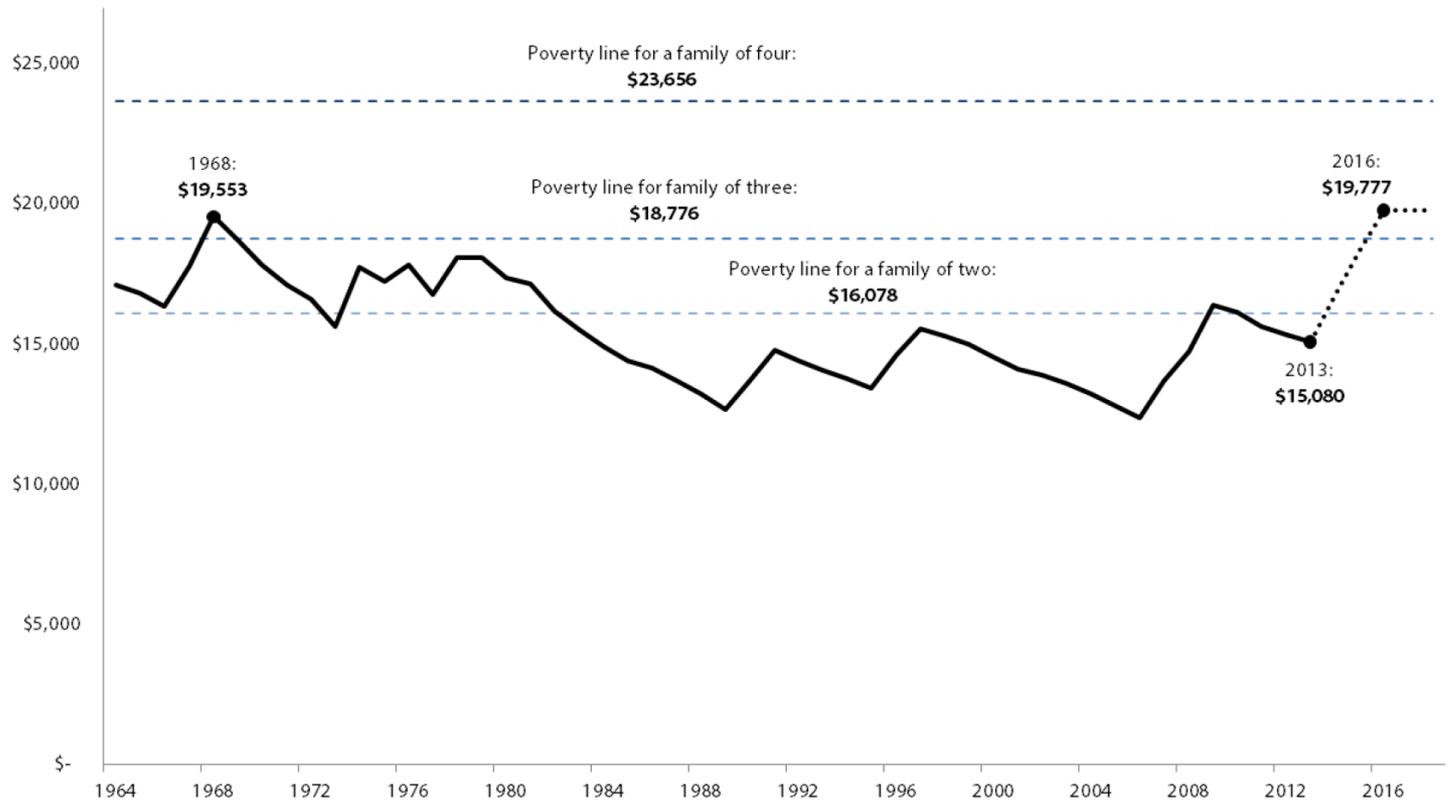
Change in Real Wages in California, 1979–2014



Source: Authors' analysis of Center for Economic and Policy Research's data extract of the Current Population Survey, Outgoing Rotation Groups, 1979–2014. Wages do not include tips, overtime pay, or commission.

FIGURE A

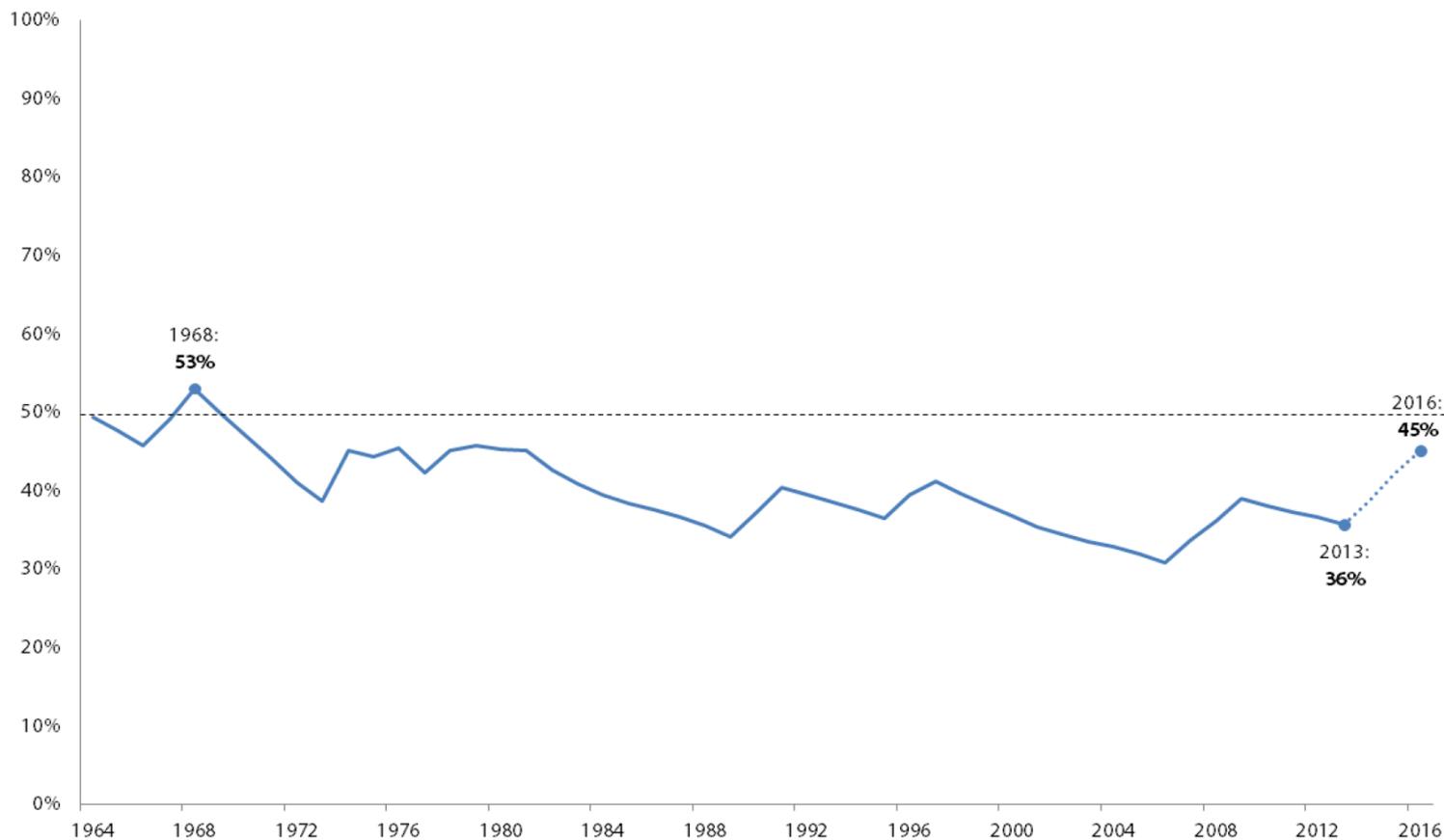
Annual minimum-wage earnings and poverty line for families of two to four, 1964–2013 and projected for 2013–2016 under proposal to raise the federal minimum wage to \$10.10 by 2016 (2013 dollars)



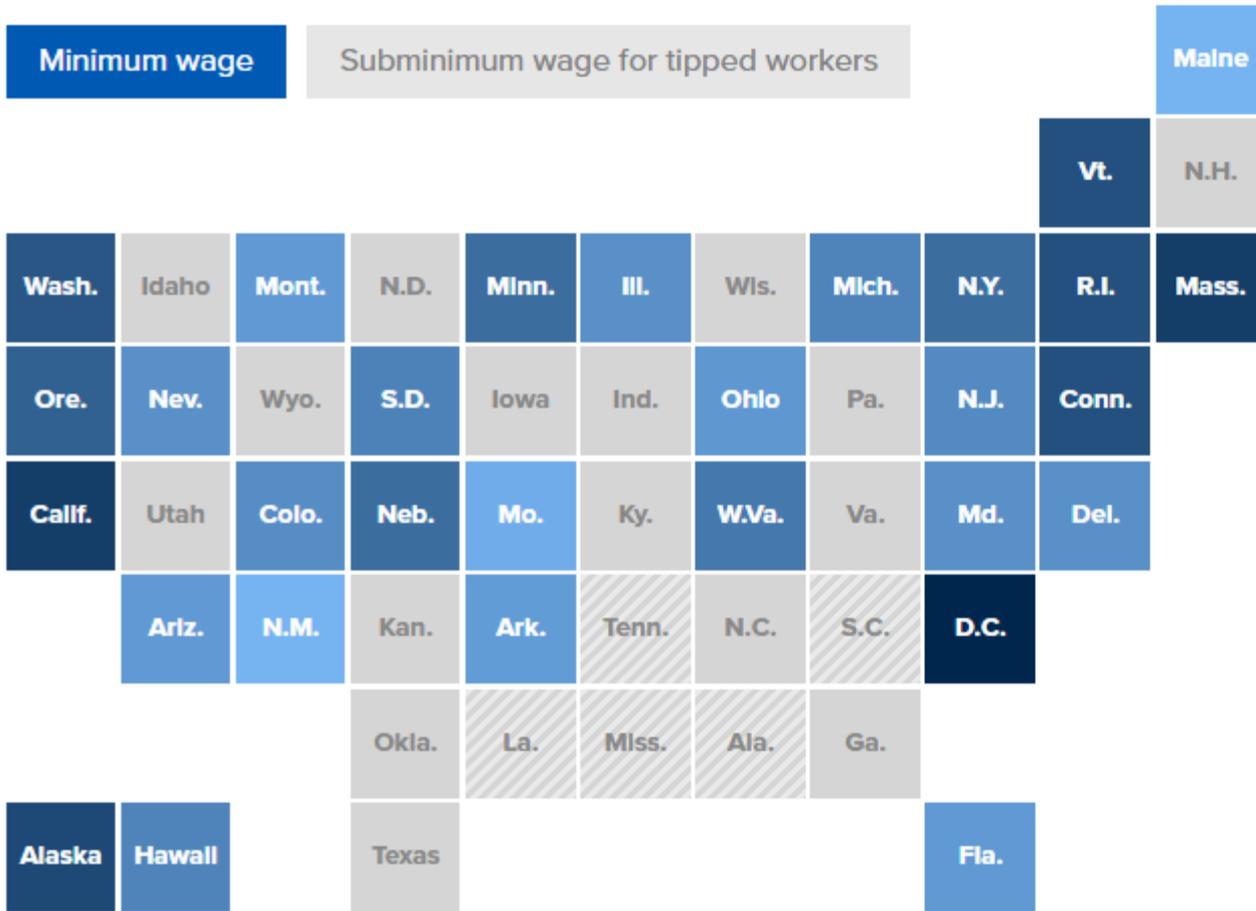
Source: EPI “Raising the federal minimum wage...”

FIGURE B

Federal minimum wage as a percentage of the average U.S. wage of production/nonsupervisory workers, 1964–2013 and projected for 2013–2016 under proposal to raise the federal minimum wage to \$10.10 by July 2016



Source: Author's analysis of Harkin-Miller proposal, Current Population Survey Outgoing Rotation Group microdata, and U.S. Department of Labor Wage and Hour Division (2013)



Federal

Minimum wage **\$7.25** Tipped wage **\$2.13**

Most recent increase
\$6.55 to \$7.25, effective July 24, 2009

Most recent major change to minimum-wage law
2007

Upcoming increases
n/a

Indexing
n/a

Notes
The Fair Labor Standards Act excludes any business with gross annual revenue less than \$500,000 whose employees do not engage in "interstate commerce." It also contains a variety of smaller occupational exclusions, such as those for telephone switchboard operators, private investigators, and babysitters.

Filter states

Minimum wage greater than or equal to \$8.00

Increased the minimum wage in the last 6 months



Source: <http://www.epi.org/minimum-wage-tracker/>

Recent MW Policies – State and city level

- 16 states that have changed their MW law since January 2014: Alaska, Arkansas, California, Connecticut, Delaware, Hawaii, Maryland, Massachusetts, Michigan, Minnesota, Nebraska, Oregon, Rhode Island, South Dakota, Vermont, and West Virginia
- 23 localities have adopted MW above their state MW: Albuquerque, New Mexico; Berkeley, California; Bernalillo County, New Mexico; Birmingham, Alabama; Chicago, Illinois; Emeryville, California; Las Cruces, New Mexico; Louisville, Kentucky; Montgomery County, Maryland; Mountain View, California; Oakland, California; Palo Alto, California; Portland, Maine; Prince George's County, Maryland; Richmond, California; San Francisco, California; San Jose, California; Santa Clara, California; Santa Fe City, New Mexico; Santa Fe County, New Mexico; SeaTac, Washington; Seattle, Washington; and Sunnyvale, California
- The minimum wage is indexed for inflation in 16 states and D.C.

Table 1. Local Minimum Wage Ordinances in the U.S.

Passed in 2003	Minimum Wage
Santa Fe, NM	\$10.84
San Francisco, CA	\$12.25
Passed in 2012	Minimum Wage
Albuquerque, NM	\$8.75
San Jose, CA	\$10.30
Passed in 2013	Minimum Wage
Bernalillo County, NM	\$8.65
Washington, DC	\$11.50 (by 2016)
Montgomery County, MD	\$11.50 (by 2017)
Prince George's County, MD	\$11.50 (by 2017)
SeaTac, WA	\$15.24

Source: national employment law project, Minimum Wage Basics

Passed in 2014	Minimum Wage
Las Cruces, NM	\$10.10 (by 2019)
Santa Fe County, NM	\$10.84
Mountain View, CA	\$10.30
Sunnyvale, CA	\$10.30
San Diego, CA	\$11.50 (by 2017)*
Oakland, CA	\$12.25
Berkeley, CA	\$12.53 (by 2016)
Richmond, CA	\$13.00 (by 2018)
Louisville, KY	\$9.00 (by 2017)
Chicago, IL	\$13.00 (by 2019)
San Francisco, CA	\$15.00 (by 2018)
Seattle, WA	\$15.00 (by 2018-21)

Table 1. Local Minimum Wage Ordinances in the U.S.

Passed in 2015	Minimum Wage
Emeryville, CA	\$15.00 (by 2018)
Los Angeles, CA	\$15.00 (by 2020)
Portland, ME	\$10.68 (by 2017)
Kansas City, MO	\$13.00 (by 2020)**
Birmingham, AL	\$10.10 (by 2017)
St. Louis, MO	\$11.00 (by 2018)**
Palo Alto, CA	\$11.00 (by 2016)
Johnson County, IA	\$10.10 (by 2017)
Los Angeles County, CA	\$15.00 (by 2020-21)
Mountain View, CA	\$15.00 (by 2018)
Sacramento, CA	\$12.50 (by 2020)
Lexington, KY	\$10.10 (by 2018)**
Tacoma, WA	\$12.00 (by 2018)
Bangor, ME	\$9.75 (by 2019)

Who gets the minimum wage?

- Women more than men
- By age – this is changing a lot over time:
 - “ a shrinking share of low-wage workers is comprised of teenagers. ... among those earning no more than the federal minimum wage of \$7.25 in 2011, fewer than a quarter were teenagers. Among those earning less than \$10 an hour, only 12 percent were teenagers, as compared to 26 percent in 1979.”

FIGURE E

Gender distribution of workers affected by raising the federal minimum wage to \$10.10 by July 2016, and of total employment

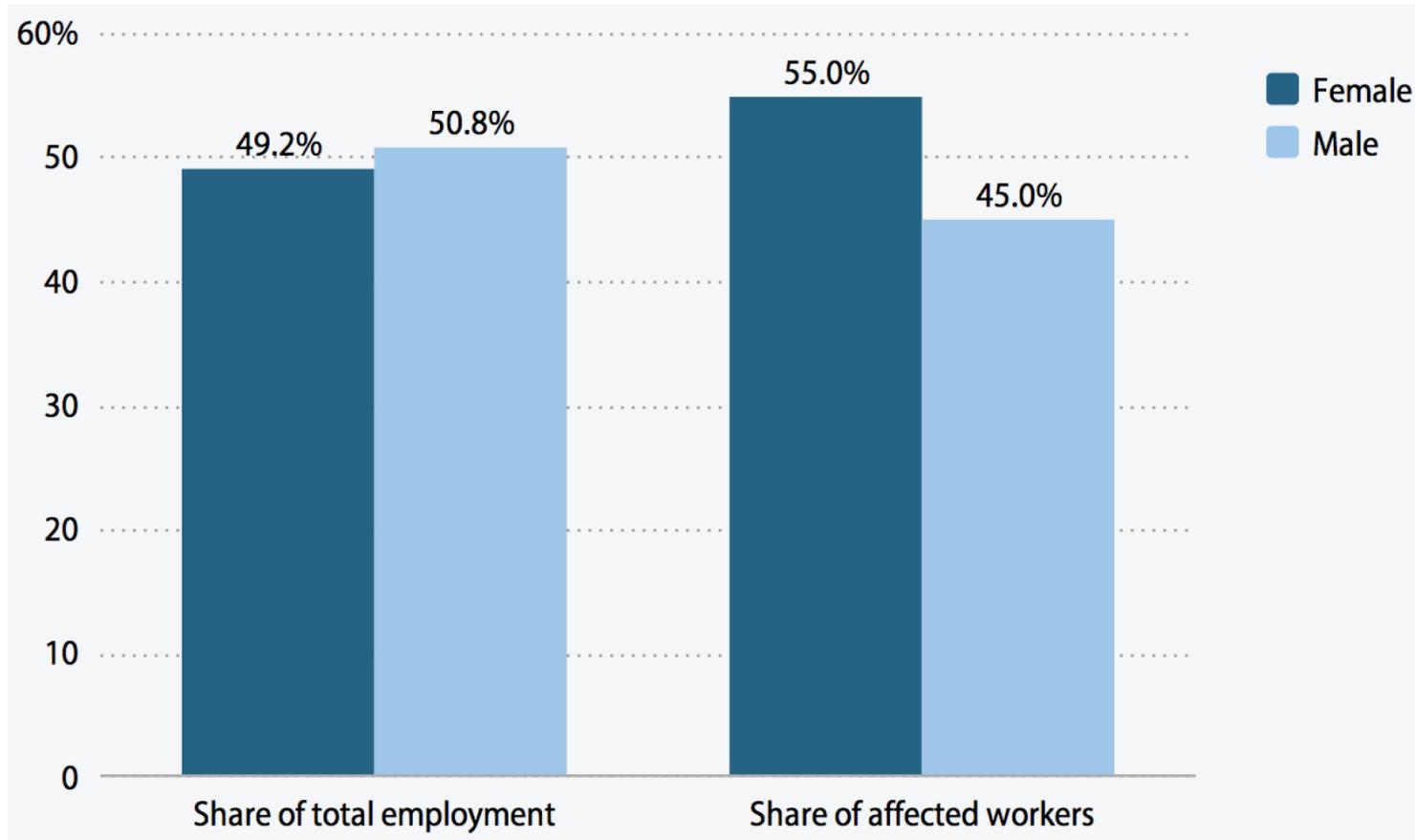
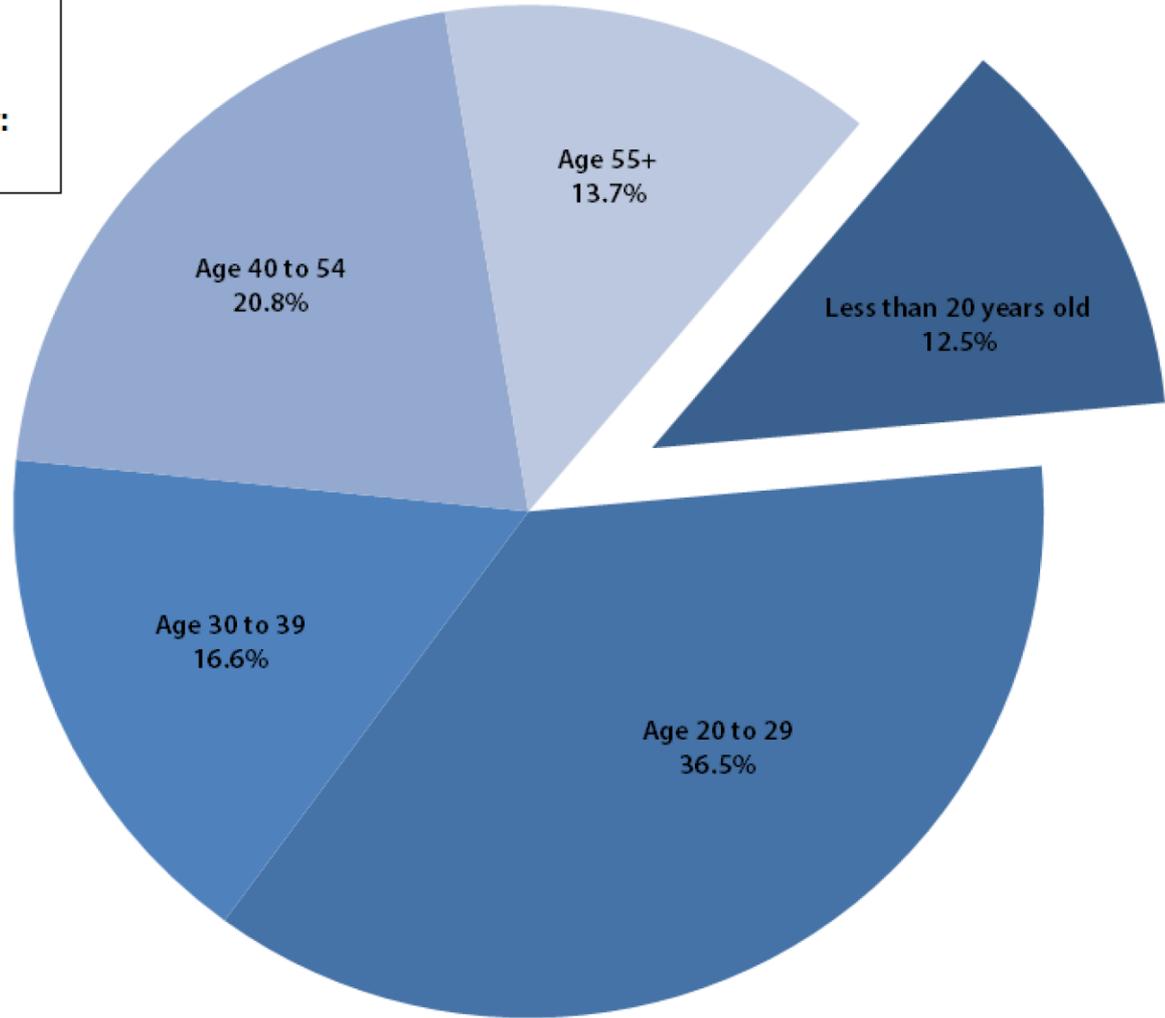


FIGURE F

Age of workers affected by raising the federal minimum wage to \$10.10 by July 2016

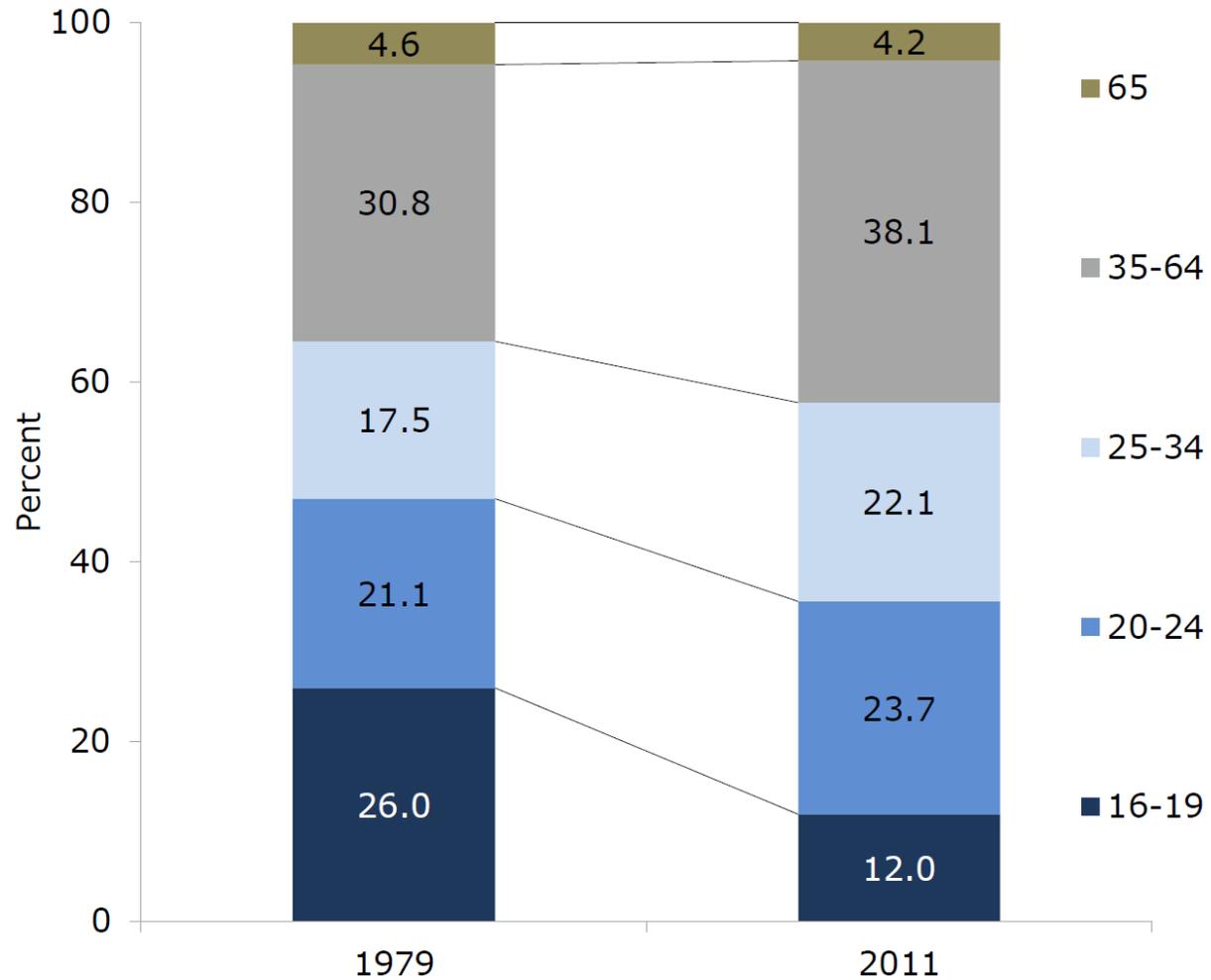
Average age of affected workers:
35 years old

Share 20 and older:
87.5%



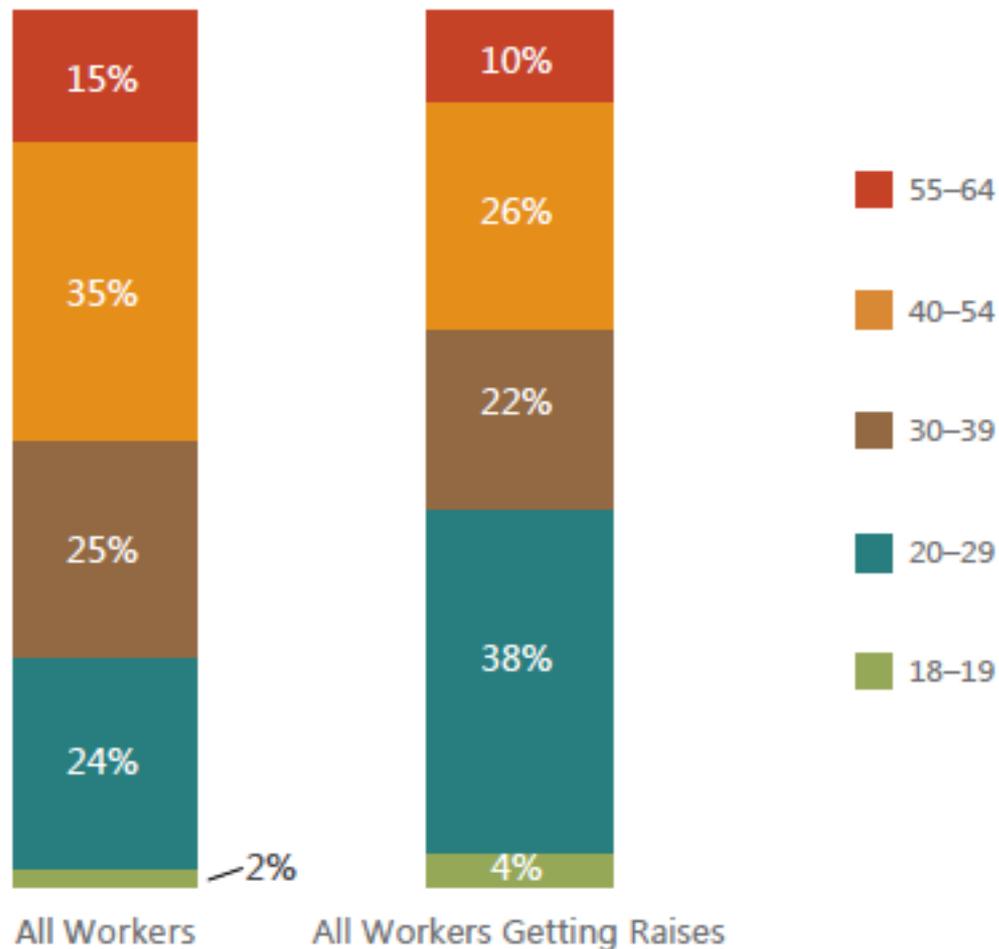
Source: Author's analysis of Harkin-Miller proposal using Current Population Survey Outgoing Rotation Group microdata

FIGURE 1
Low-wage Workers, By Age Group, 1979 and 2011



Source: CEPR “Low Wage Workers are Older and Better Educated than Ever”

Estimated Age of Workers Affected by A \$15 Minimum Wage In California



ES, and QCEW data

FIGURE J

[VIEW INTERACTIVE on epi.org](#)

Share of children with at least one parent affected by raising the federal minimum wage to \$10.10 by July 2016, by state

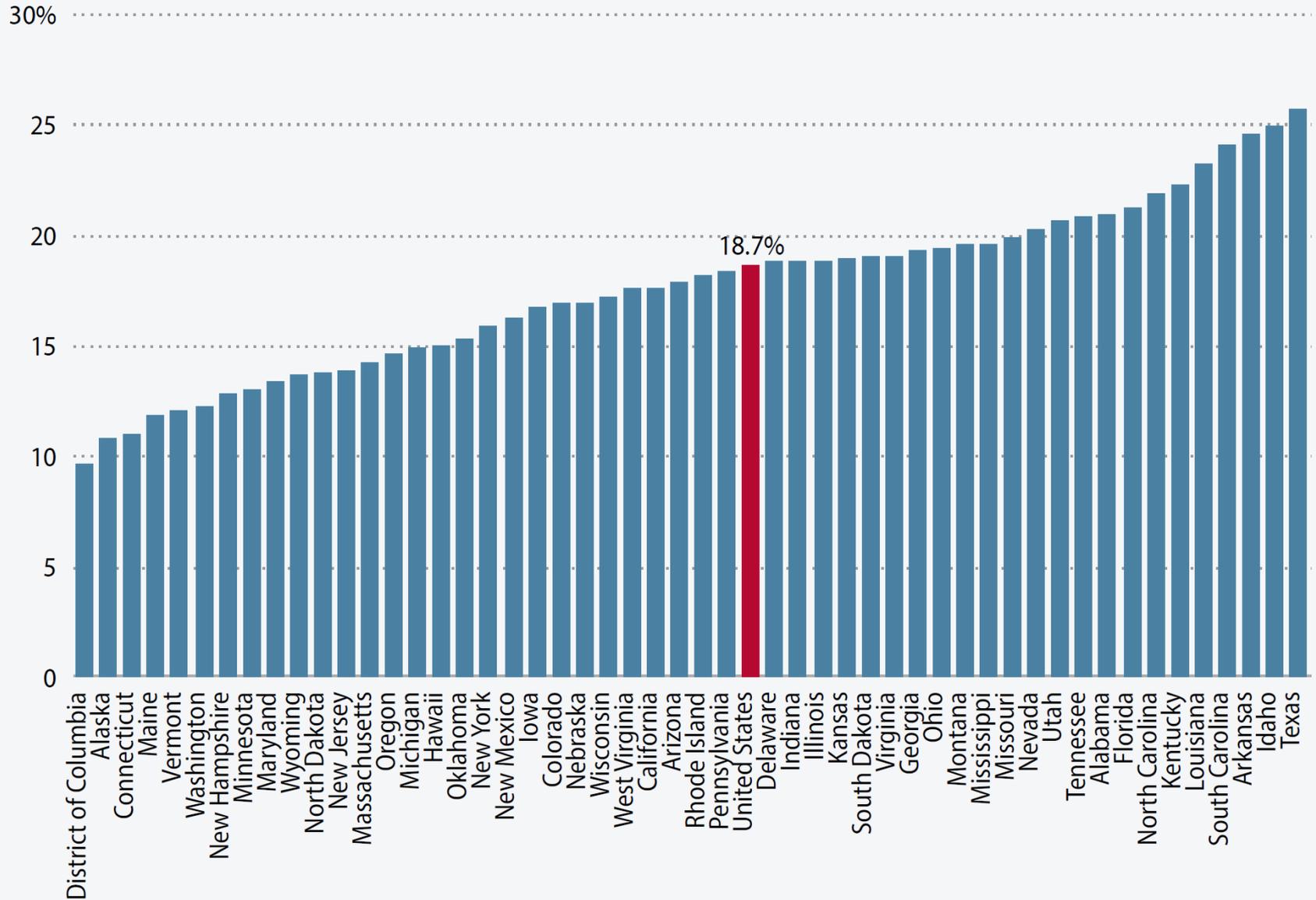
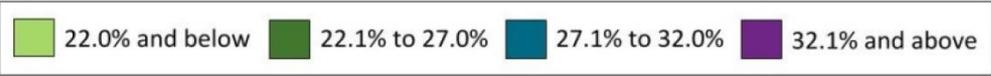
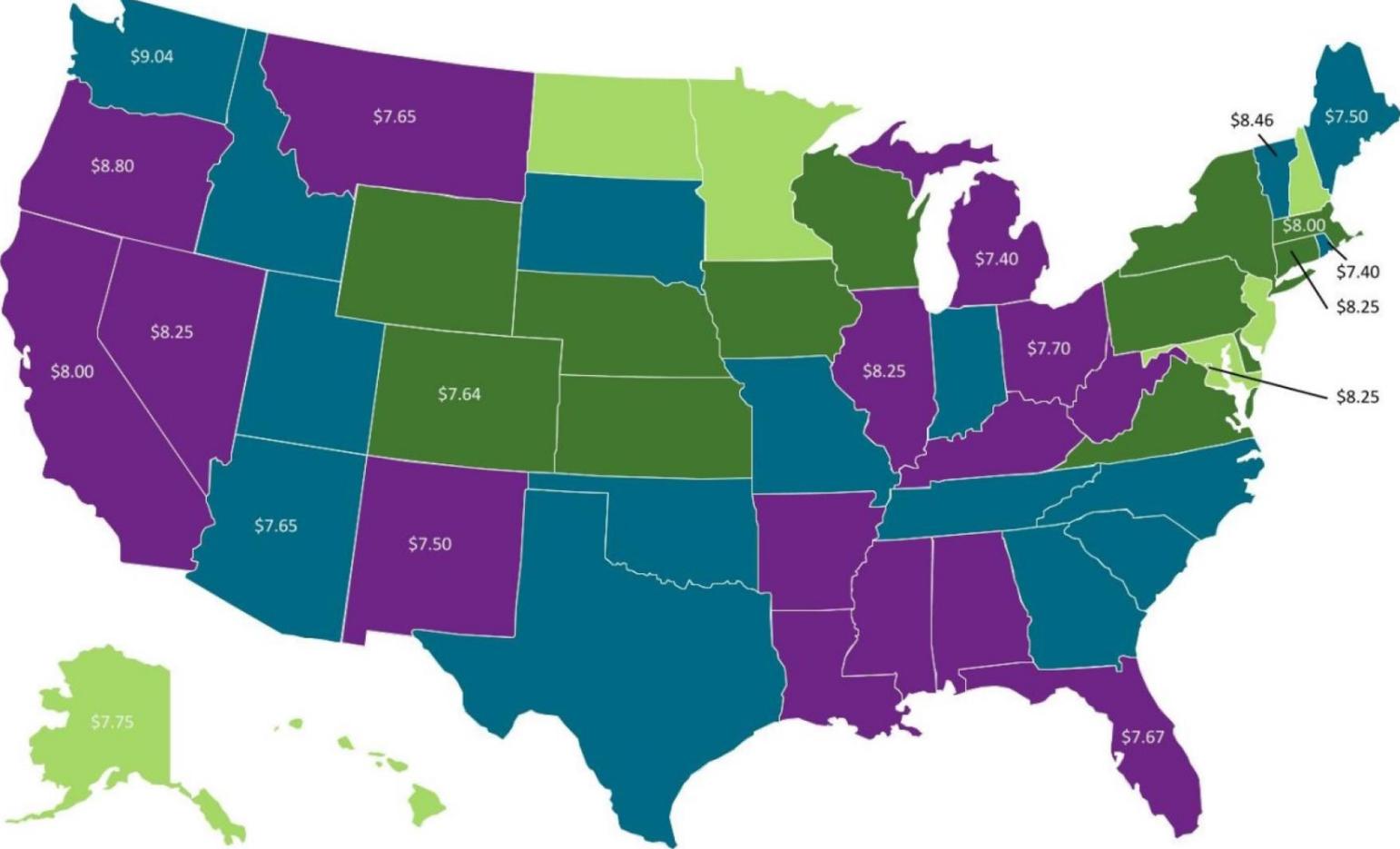


Figure 1.

Percent of Workers Earning At or Below 150 Percent of the Minimum Wage by State in 2012

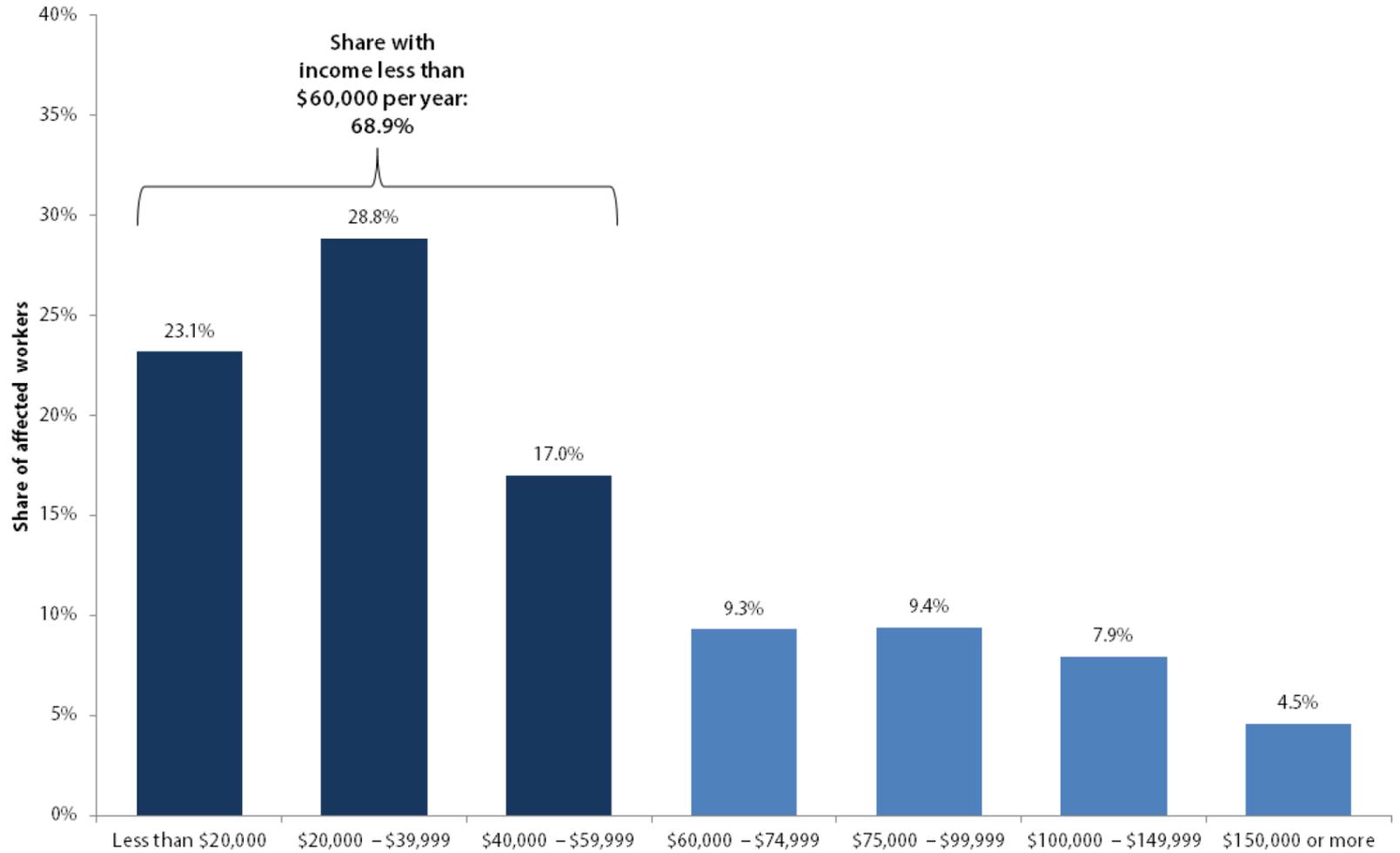
States without an indicated minimum wage were subject to the federal minimum wage of \$7.25.



Source: U.S. Department of Labor 2011; Current Population Survey 2012, Merged Outgoing Rotation Group; authors' calculations.

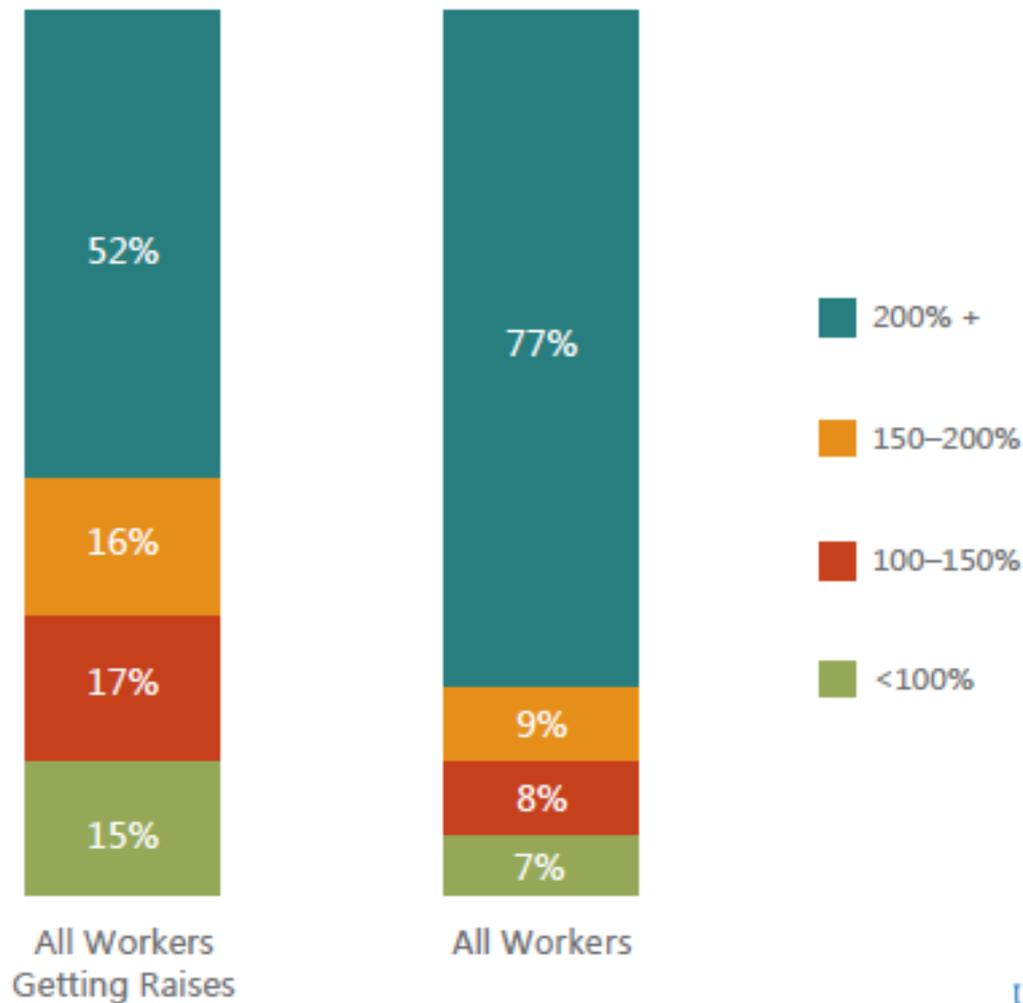
FIGURE H

Family income of workers affected by raising the federal minimum wage to \$10.10 by July 2016



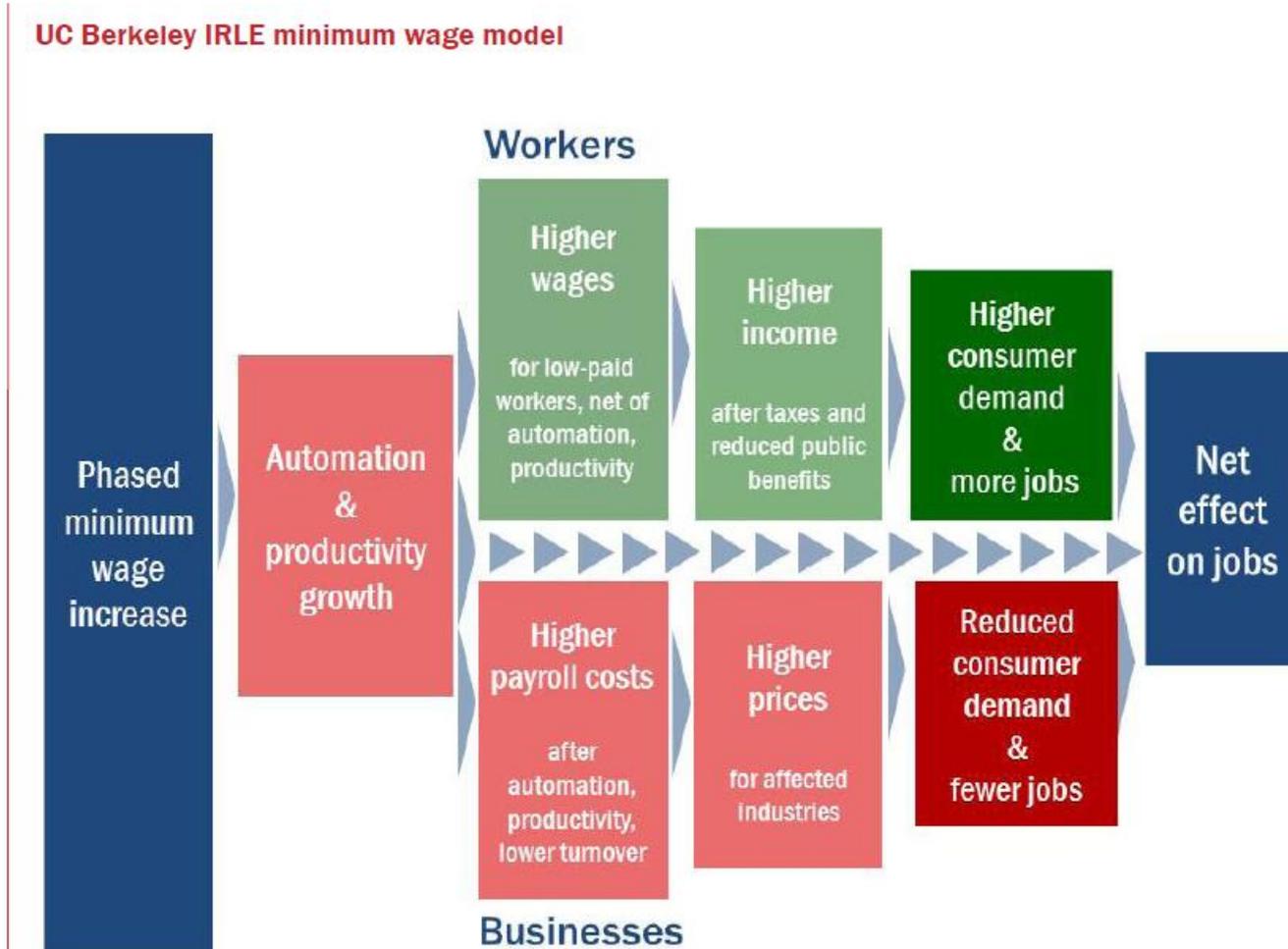
Source: Author's analysis of Harkin-Miller proposal using Current Population Survey Outgoing Rotation Group microdata

Estimated Family Income as Share of Poverty Level for Workers Affected by A \$15 Minimum Wage In California



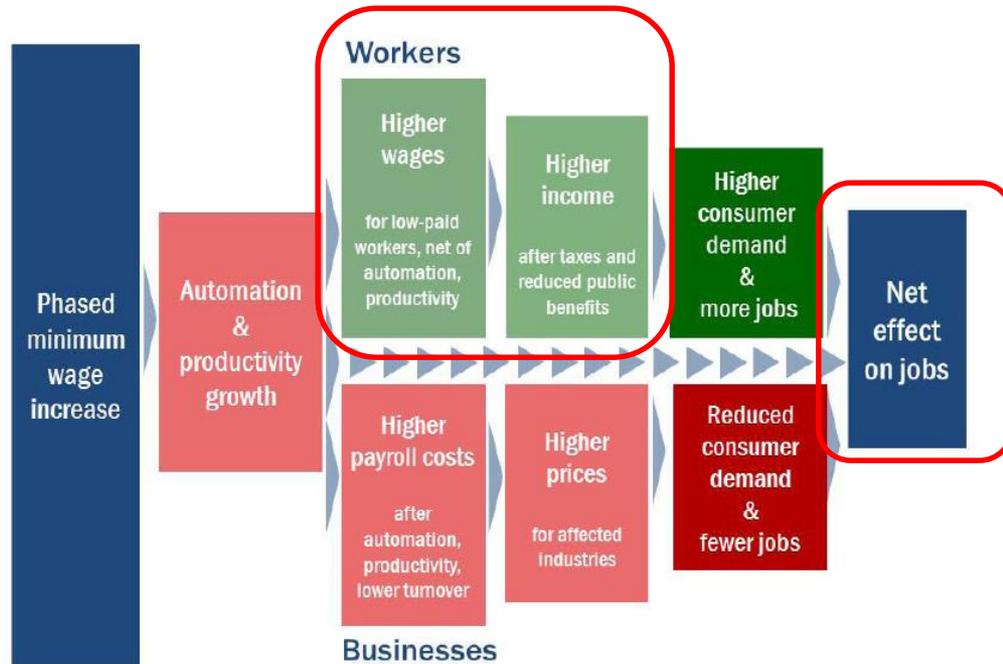
ors' analysis of ACS, OES, and QCEW data.

Theory: What are the effects of MW



Source: UC Berkeley IRLE Minimum Wage Research Group

UC Berkeley IRLE minimum wage model



Source: UC Berkeley IRLE Minimum Wage Research Group

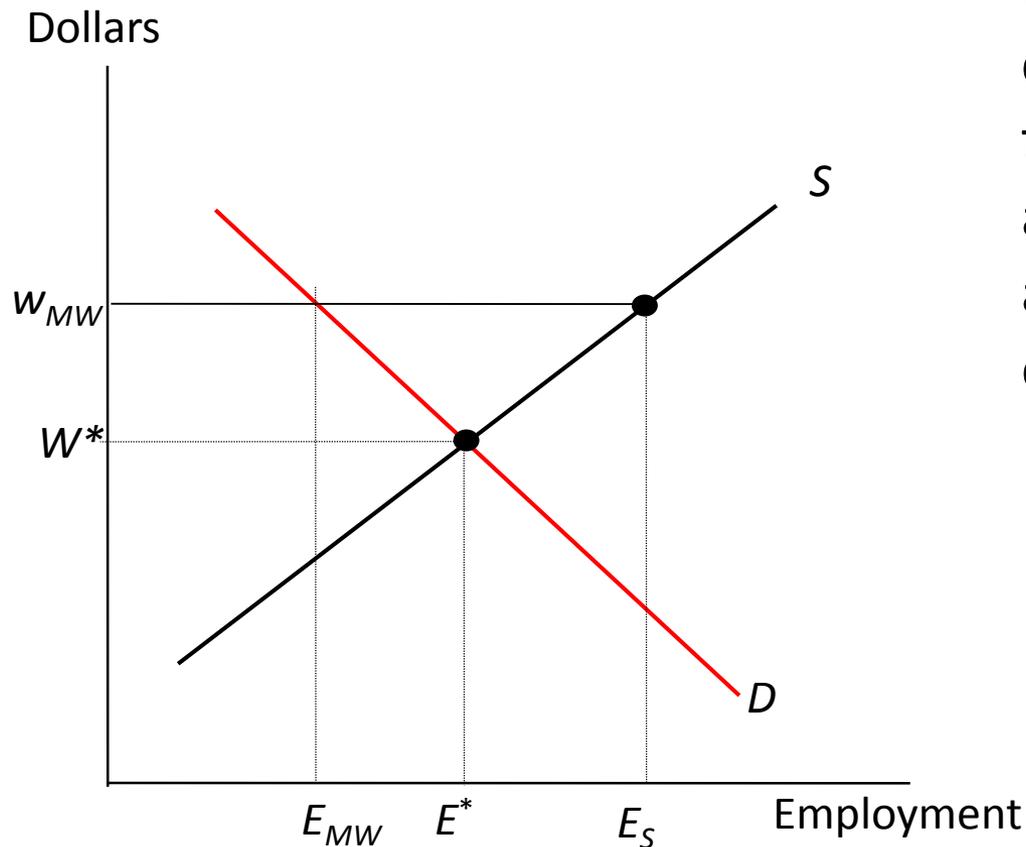
Most evidence on the MW examines impacts on:
employment
Wages, income, poverty

The net effects on jobs does not tell us the source of that change.
“program evaluation” not “mechanisms”

Minimum wage and employment

- Partial equilibrium analysis

The Impact of the Minimum Wage on Employment



A minimum wage set at w_{MW} forces employers to cut employment (from E^* to E_{MW}). The higher wage also encourages $(E_S - E^*)$ additional workers to enter the market.

Summary: Impacts of binding price floor

- Equilibrium price (wage) increases
- Equilibrium quantity (employment) decreases
- Surplus of labor (unemployment)
- Some sellers are helped by price floor (some workers get higher wage)
- Other sellers are hurt by the price floor (since they can not sell at market price, unemployment)
- Inefficient outcome (economy wide surplus declines)
- Black market?

Predicting the effects of MW changes

- Key variable: MW relative to prevailing wages in the economy

3. Empirical Evidence on the minimum wage

- Not much evidence that the minimum wage leads to a reduction in employment
 - Replicated in many studies

Card and Krueger's PA/NJ Study

- NJ increased its MW
- Nearby PA did not
- Difference-in-difference analysis uses PA to help identify the “counterfactual” (control state)
- They surveyed 400 restaurants in NJ Eastern PA
- A breakthrough study at its time.



- Many subsequent studies used similar designs
- Little evidence that employment declines
- Congressional Budget Office: Increasing federal minimum to \$10.10 would lead to a reduction in 500,000 workers –this is about 1.5 percent of the 33 million workers who could be impacted

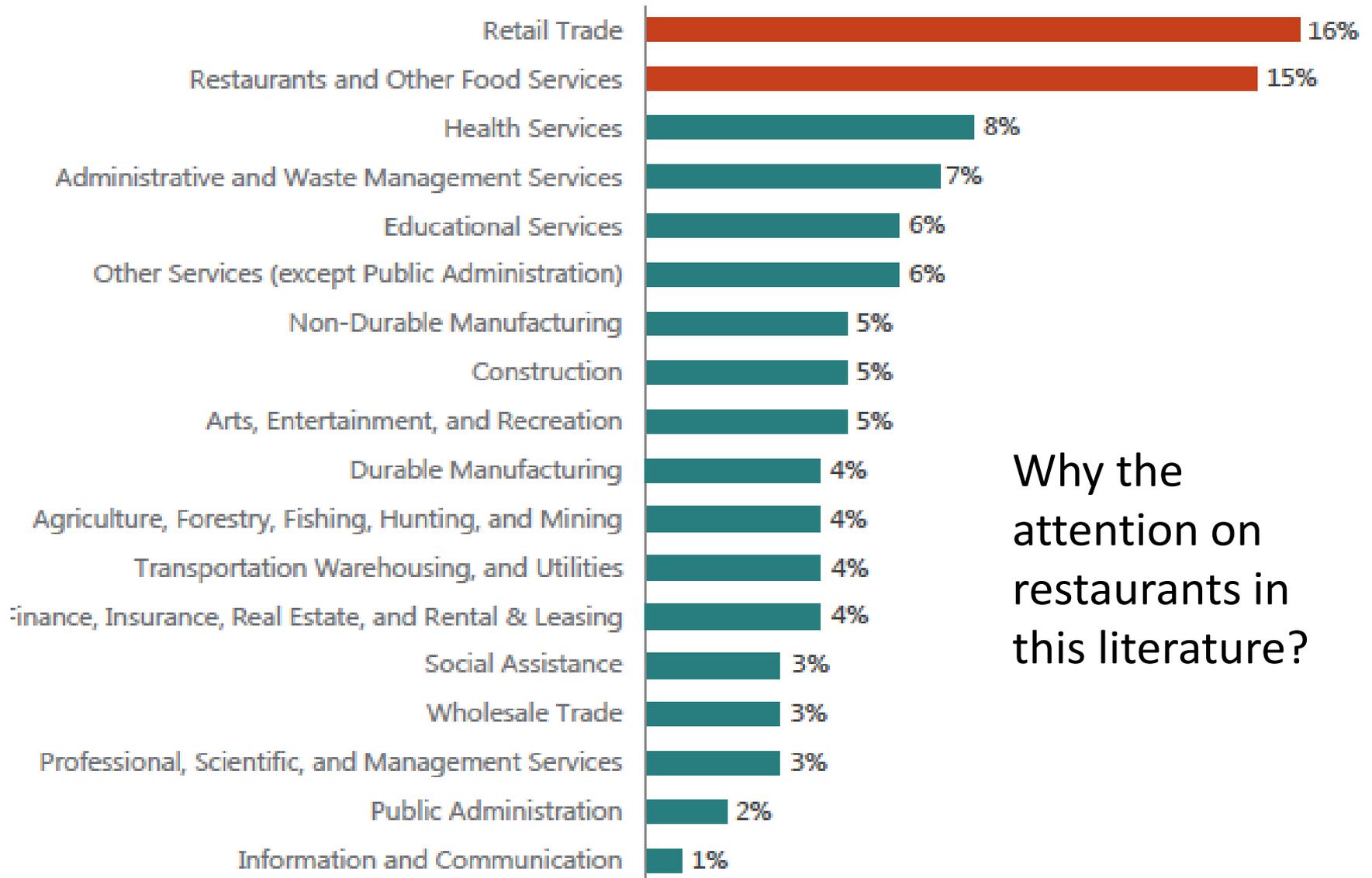
Dube, Lester and Reich “Minimum wage effects across state borders: Estimates using contiguous counties”

- Policy discontinuities at state borders to identify the effect of minimum wages.
- Create the set of county-pairs that are located on opposite sides of a state border
- Advantage – control group with similar labor market but different policies
- Generalization of Card and Krueger

Data

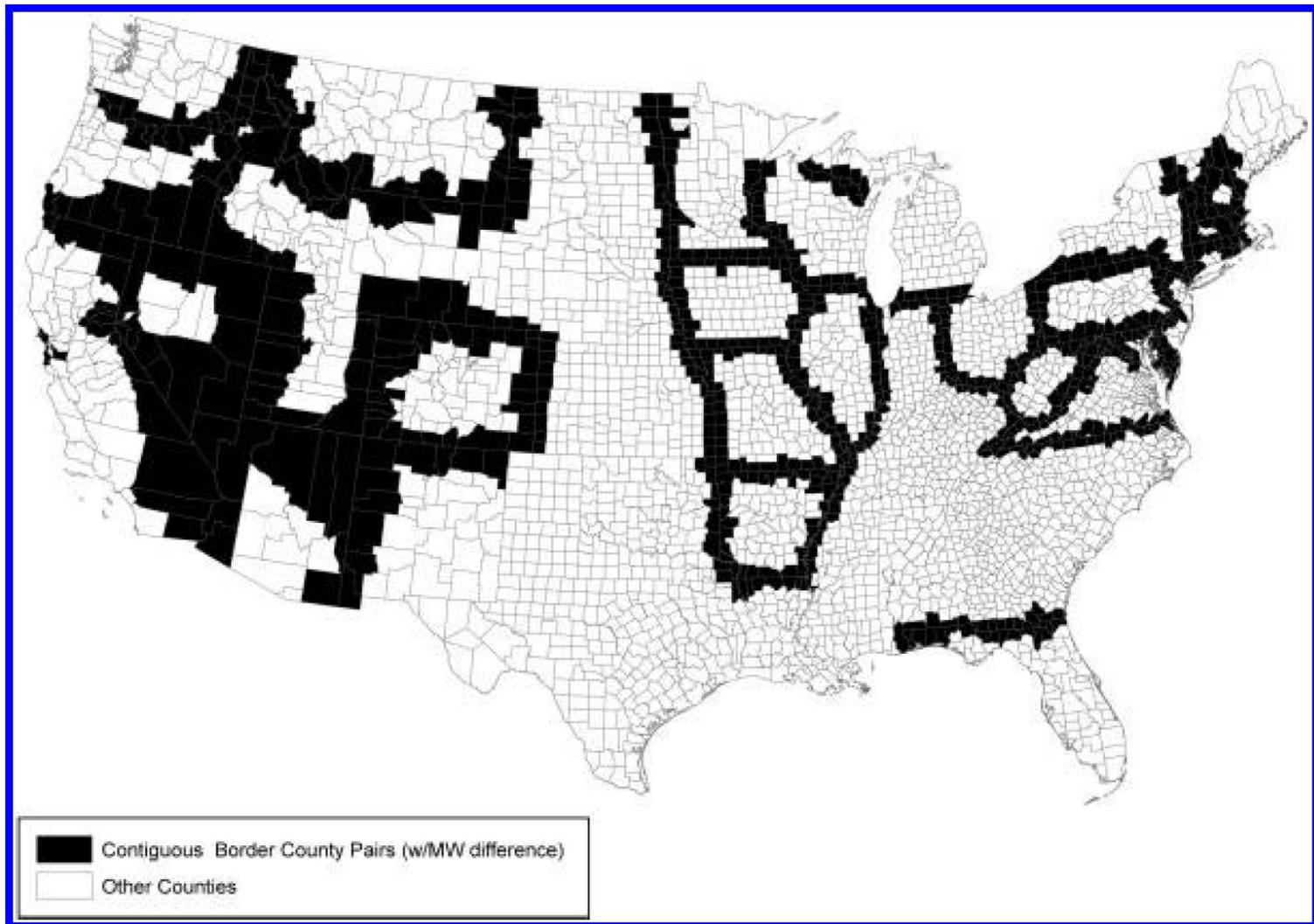
- County-level data on earnings and employment from the Quarterly Census of Employment and Wages (QCEW) between 1990 and 2006
- Main results are for restaurants (intensive users of minimum wage workers)
- Also examine other low wage industries

Distribution of California's Low-Wage Workers Across Industries Affected by a \$15 Minimum Wage in California



Why the attention on restaurants in this literature?

FIGURE 2.—CONTIGUOUS BORDER COUNTY-PAIRS IN THE UNITED STATES WITH A MINIMUM WAGE DIFFERENTIAL, 1990–2006Q2



337 counties and 288 county pairs had a minimum wage differential at some point in the sample period.

County border design

- Consider one pair – one side of border has higher MW and the other a lower one
- Simple diff-diff (like Card and Krueger's NJ/PA analysis) using data pre and post
- If you pool all of these together you get more power with variation in the timing and amount of the increase.

Model (Contiguous Border County-Pair Sample)

$$\ln y_{ipt} = \alpha + \eta \ln(MW_{it}) + \delta \ln(y_{it}^{TOT}) + \gamma \ln(pop_{it}) + \phi_i + \tau_t + \varepsilon_{ipt}. \quad (5)$$

Finally, for our preferred specification, we allow for pair-specific time effects (τ_{pt}), which use only variation in minimum wages within each contiguous border county-pair:

$$\ln y_{ipt} = \alpha + \eta \ln(w_{it}^M) + \delta \ln(y_{it}^{TOT}) + \gamma \ln(pop_{it}) + \phi_i + \tau_{pt} + \varepsilon_{ipt}. \quad (6)$$

- County i in pair p in year t
- y^{TOT} is total employment
- Fixed effects for county, and time (or pair-time)

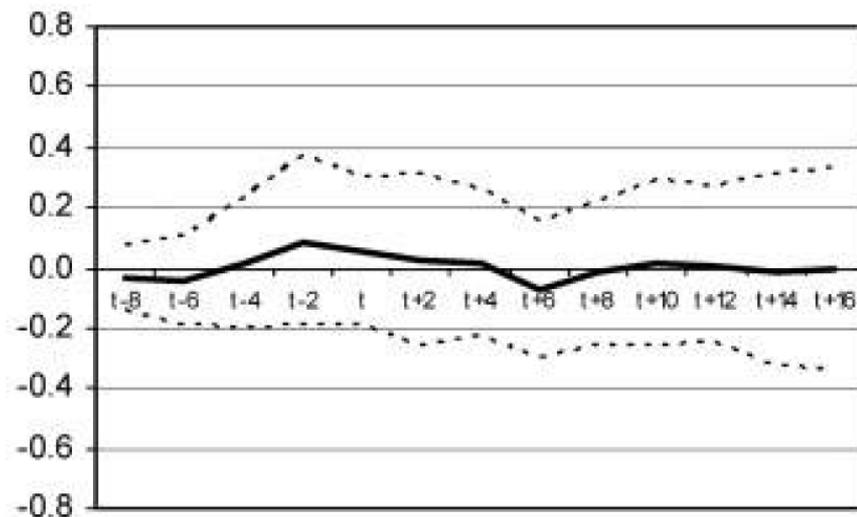
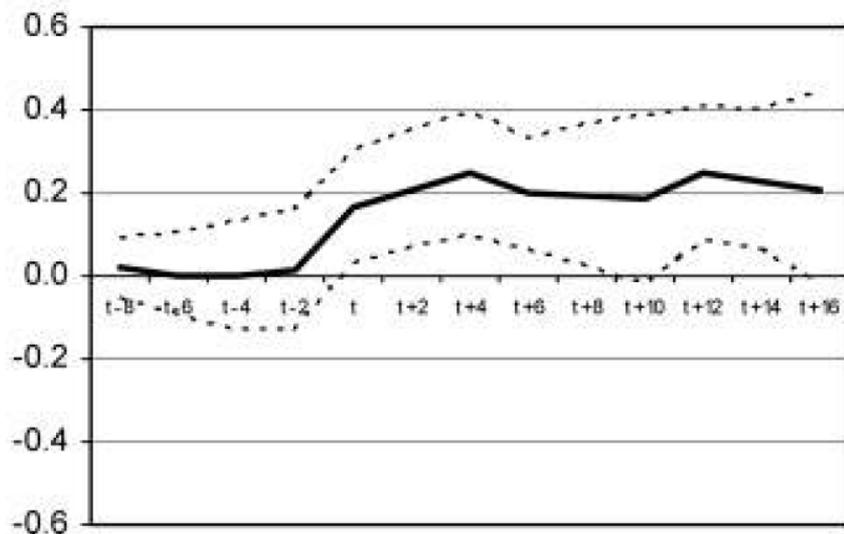
TABLE 4.—TESTS OF CROSS-BORDER SPILLOVER EFFECTS FROM MINIMUM WAGE CHANGES

	(1)	(2)	(3)	(4)
	Border Counties	Border Counties	Interior Counties	Spillover = (Border – Interior)
			<i>In Earnings</i>	
$\ln MW_t$	0.188*** (0.060)	0.165*** (0.056)	0.164 (0.113)	-0.008 (0.112)
			<i>In Employment</i>	
$\ln MW_t$	0.016 (0.098)	0.011 (0.109)	0.042 (0.107)	-0.058 (0.139)
Sample	Baseline CBCP	Spillover	Spillover	Spillover
N	70,620	69,130	69,130	69,130
<i>Controls</i>				
County-pair \times period dummies	Y	Y	Y	Y
Total private sector	Y	Y	Y	Y

Estimates are elasticities

Results: significant increase in average earnings no
significant change in employment

6. Contiguous Border County-Pair Sample, County-Pair Specific Period Effects



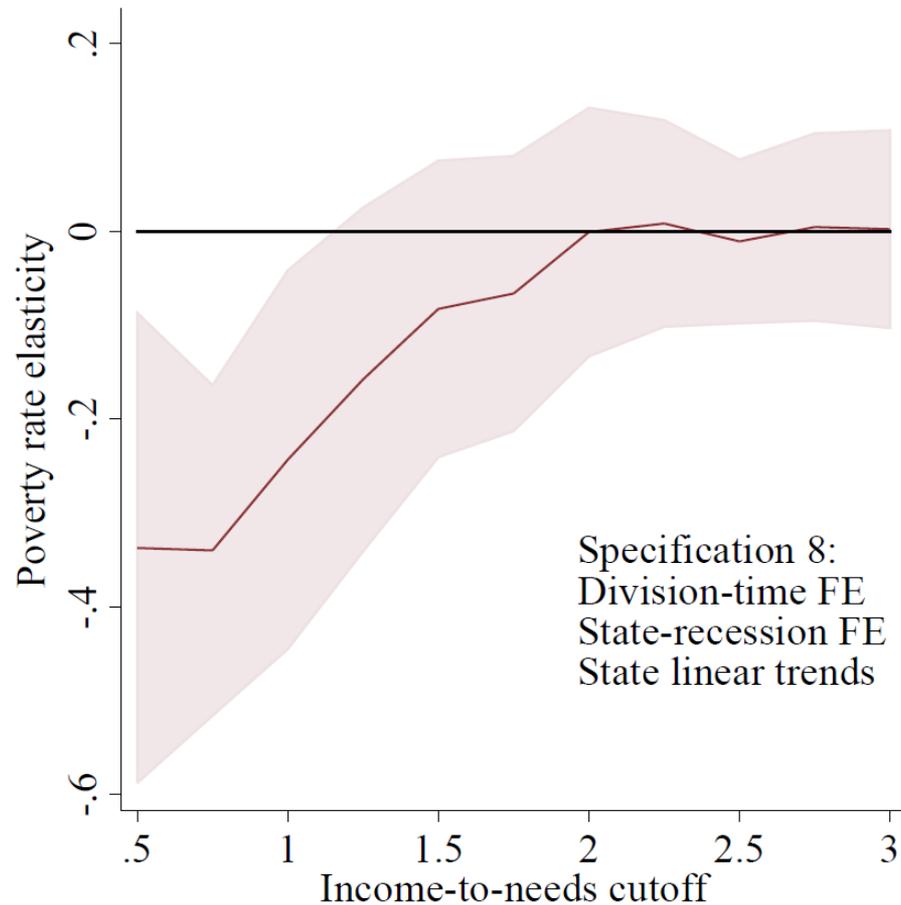
Earnings on the left, employment on the right

Event time version of the model

Tracing through the MW wage change.

Clear and immediate increase in average earnings no change in employment

Related paper by Dube explores effects on family income to poverty



Why no (measurable) fall (or small fall) in employment?

- Prediction of neoclassical model is that employers can hire all the labor they want at the prevailing wage (price takers)
- Higher wages may lead to
 - Quicker pace of hiring workers
 - Higher productivity
 - Lower turnover
- Generally, a monopsony model (one where workers have some market power) comes from the reality of the issues above and “search theory” whereby there are costs of moving from one job to another.
- Could also be due to low values of minimum wages. We will learn much soon about the effects of the new city minimum wage policies

Other related evidence on MW

- Worker turnover decreases: Dube, Naidu and Reich (2007) in SF, Dube, Lester and Reich (forthcoming)
- Less use of SNAP (Dube 2013; West and Reich 2014)
- Not much work on prices, though evidence points to costs passed through to higher prices:
 - Allegretto and Reich (2015) on San Jose
 - Harasztosi and Lindner (2015) in Hungary

Studies coming on line (Arnold Foundation a big funder here)

- Seattle (U Wash Evans School team):
 - (1) studying impacts on a broader range of outcomes, including administrative data on hours worked, social safety net data, and survey data on fringe benefits and household food security
 - (2) examining effect heterogeneity in impacts across workers and household types,
 - (3) considering contextual determinants of minimum wage effects across markets and industries.
- Early evidence shows little impact on prices (but not very precise)

- LA (UCLA team):
 - Focus on importance of spillovers, using both measures of geographic proximity and economic similarity.
 - Firm data: turnover
 - Health: healthcare; food insecurity; health behaviors; and general health

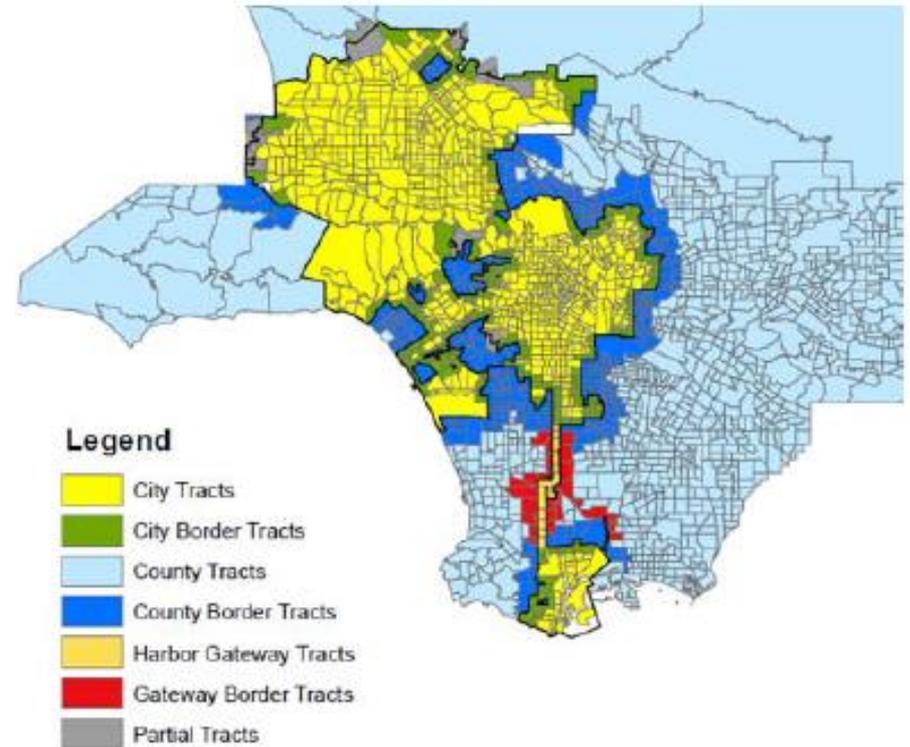


Figure 2

LA Border Regions

California 2016

Schedule of the Proposed Minimum Wage Increases

Year	Businesses with more than 25 employees	Businesses with 25 or fewer employees
2017	\$10.50	\$10.00
2018	\$11.00	\$10.50
2019	\$12.00	\$11.00
2020	\$13.00	\$12.00
2021	\$14.00	\$13.00
2022	\$15.00	\$14.00
2023	\$15.00	\$15.00

UC BERKELEY
LABOR
CENTER

- The plan allows for governor to pause any scheduled increase for one year in the event of an economic slowdown or a budget deficit that is forecast for the current fiscal year or either of the upcoming two years when the wage hike is figured in

Challenges to predicting effects of CA MW Law

- High value of MW relative to median wages in some parts of the state → a large increase relative to what we have seen
- Overall 37% of CA worker would be affected (based on current wages vs \$15 wage net of local policies already on the books) [Labor Center]
- Significant variation across the state

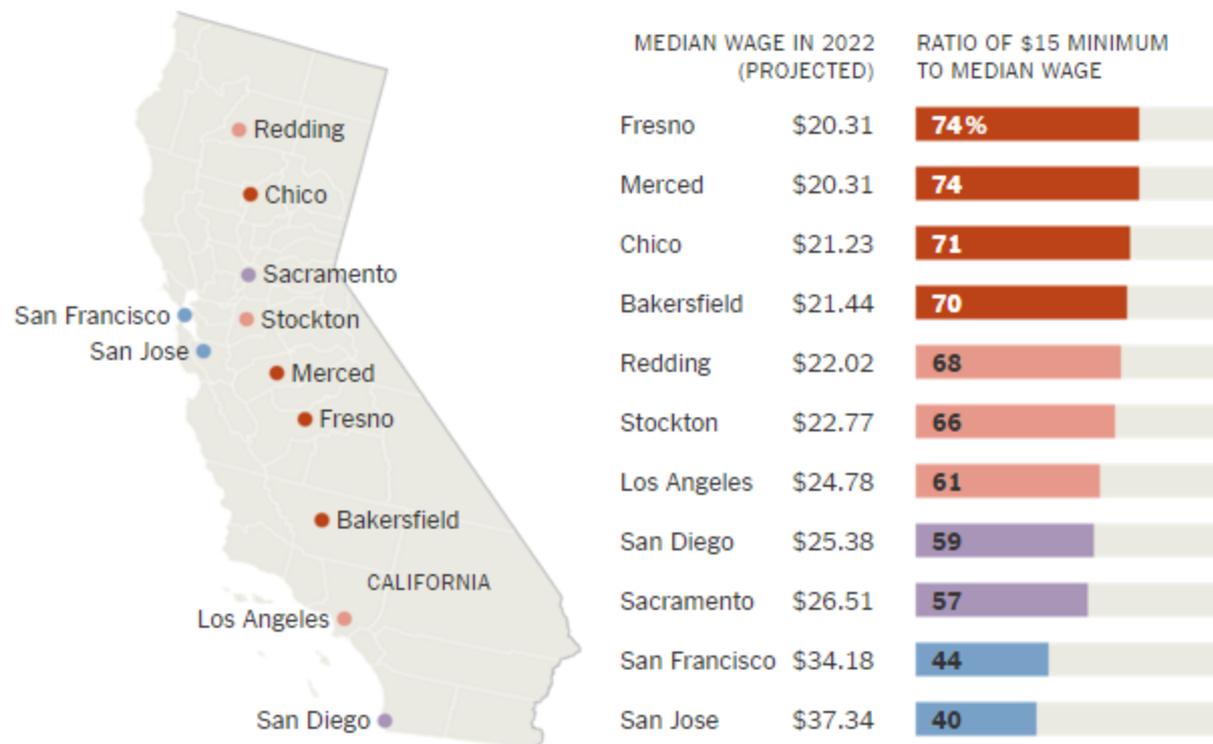
Golden State Experiment

In moving to raise the statewide minimum wage to \$15 by 2022, California is going well beyond previous efforts to raise the wage floor in recent decades. Because typical wages vary widely from high-cost San Francisco and San Jose to cities like Fresno and Merced, where the median wage is much lower, many economists are concerned that the measure may lead to job loss in places where the minimum wage will be relatively close to what the typical worker is expected to earn.

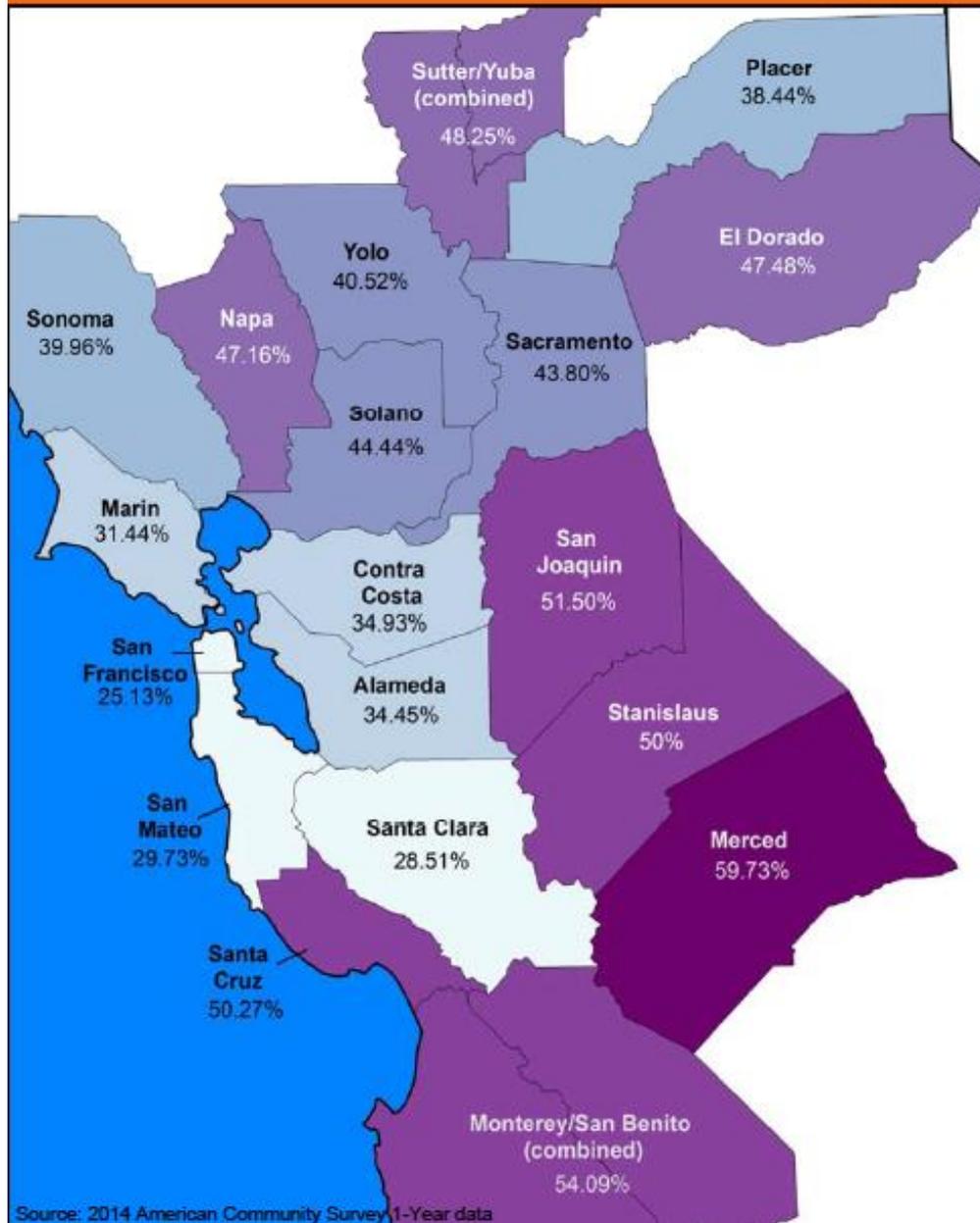
Ratio of minimum wage to median wage in 2022

Rough consensus among economists sympathetic to minimum wage increases:

- BELOW 50% (mostly beneficial)
- 50% to 60% (may create difficulties)
- 60% to 70% (serious concerns)
- ABOVE 70% (potentially disruptive)



Percentage of Workers Impacted in Each County



Source: Center for Business and Policy Research, U of Pacific

- We don't have much evidence about a \$15 outside a high price/income city. (though in real terms this is not far off from MW decades ago)
- Could have very different effects in low wage central valley

- Thoughts about tradeoffs and arguments for
 - EITC
 - Wage subsidies
 - Minimum wages
 - Welfare
- How do they work together?

Wage subsidies vs EITC

- Oren Cass, Manhattan Institute: proposes wage subsidy:
 - Replace EITC with wage subsidy. Set up so that govt would pay half the difference between wage and target wage (say 60% of the median)
- Why would this be better?
- Why would this be worse?

Wage subsidies vs EITC

- Oren Cass, Manhattan Institute: proposes wage subsidy:
 - Replace EITC with wage subsidy. Set up so that govt would pay half the difference between wage and target wage (say 60% of the median)
- Better? If attached to worker then challenges with tracking who claims the children is gone, no intensive margin work disincentive, better delivery (?) in paychecks, more benefits to firms?
- Worse? Not targeted based on family income, not based on number of children, minimal intensive margin labor supply elasticities in practice
- Both: downward wage pressure in the market (operating through increased labor supply)

Monopsony in labor markets and Minimum Wages

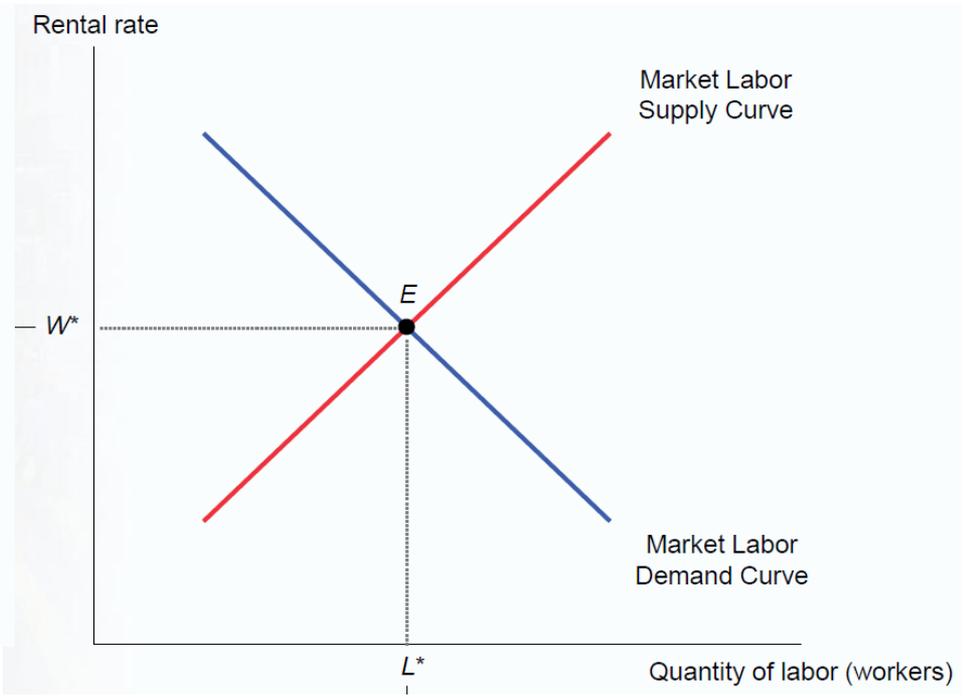
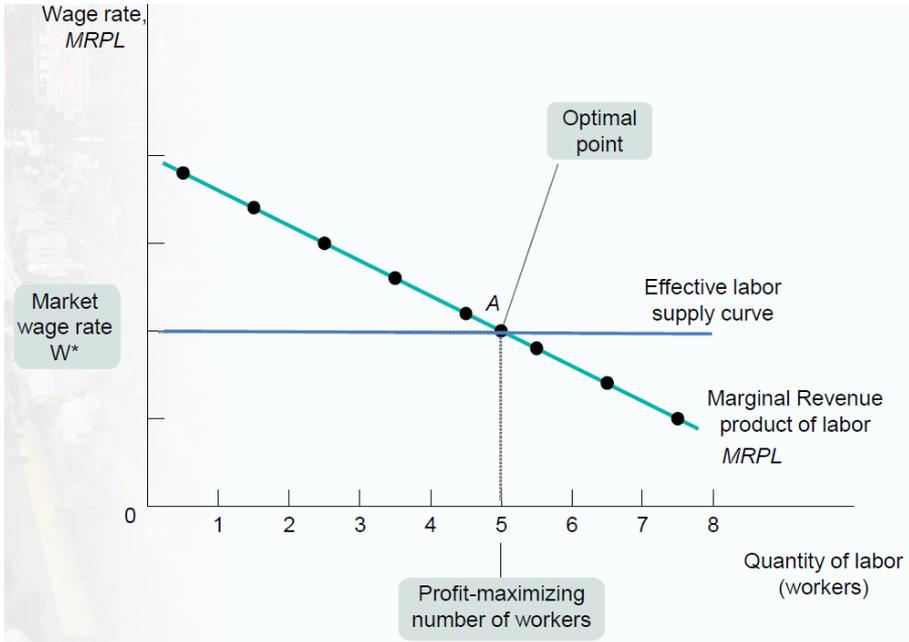
PP290

Hilary Hoynes

Review: Competitive Labor Markets

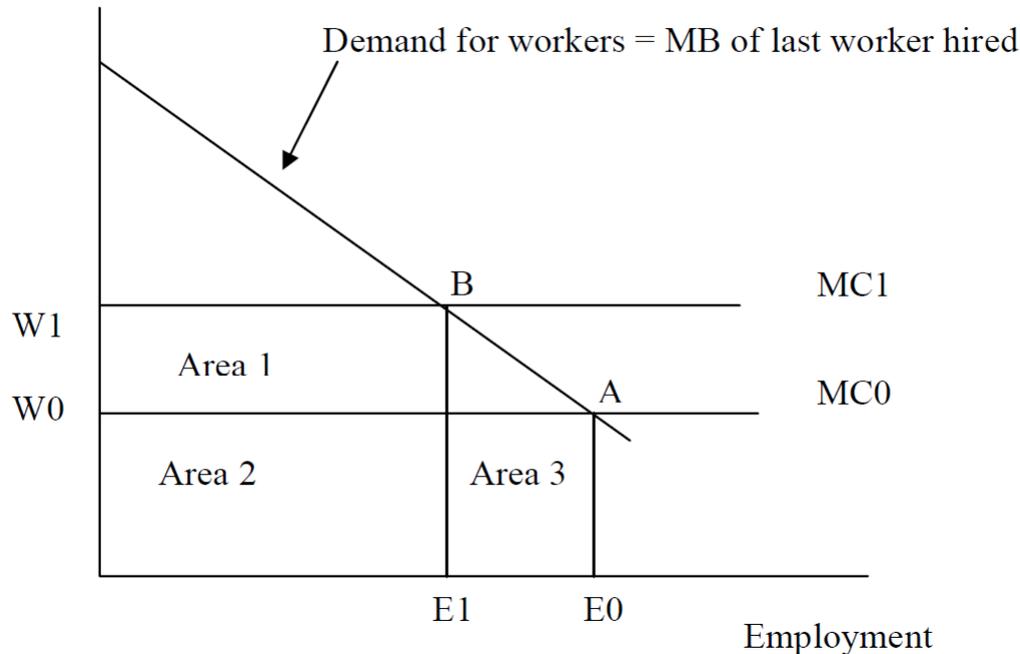
- Firms are wage takers and face “law of one price” (for same occupation / skill group)
- Individuals and firms face no cost for changes in behavior
 - Workers can change jobs and locations costlessly, they have full information about openings
 - Firms can costlessly obtain more workers, no cost of turnover, hiring, training
- Each firm faces a horizontal labor supply curve
 - Can hire all the labor they want at the market wage
 - If they pay a wage $< w^*$ \rightarrow workers will go elsewhere
 - If they pay a wage $> w^*$ \rightarrow their costs go up, lose compare to competitors

- Key distinction is the labor supply curve that the individual firm faces is not the same as the market labor supply curve



Impact of MW for single firm in perfectly competitive labor market

Wages



Price takers

Price taking wage increases from w_0 to w_1 (reflecting new minimum wage of w_1)

At this higher wage, there are employees who generate less (in terms of the value of their marginal output) than they cost the firms.

Hence, the employer will reduce employment from E_0 to E_1 , through layoffs or attrition

Noncompetitive labor markets: monopsony

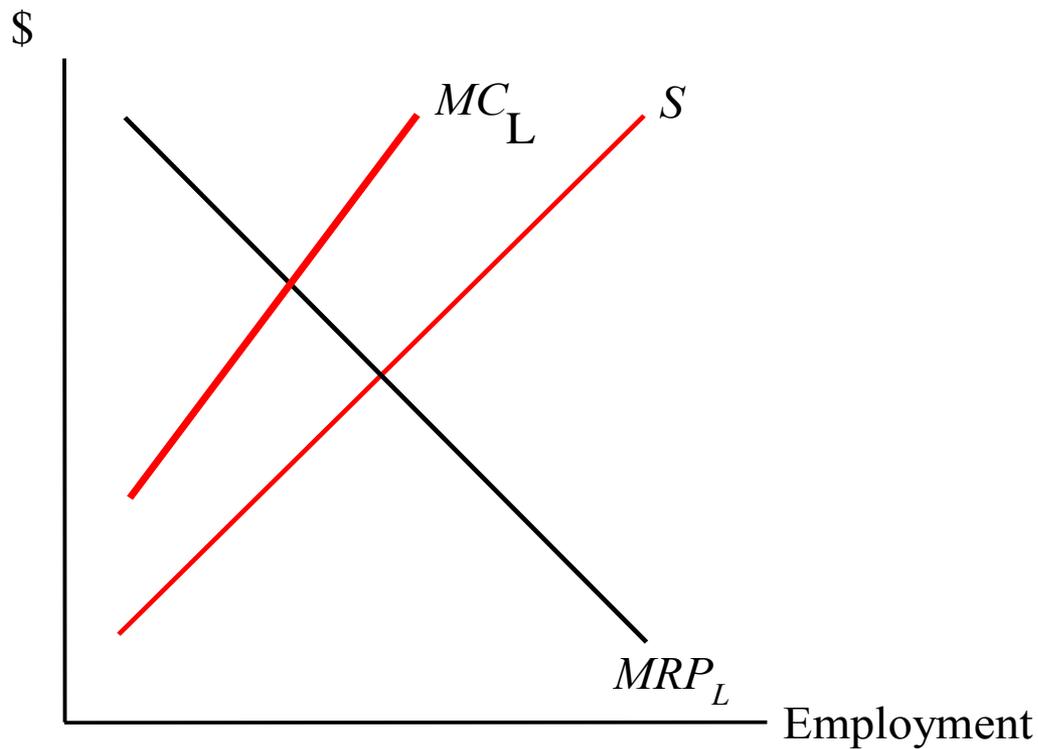
- Frictions in the labor market
- Employees may experience costs of making changes to their behavior → frictions
- [Firms can have frictions too, but monopsony is about employees having frictions]
- Reality: there is across place and within place variation in wages
- It takes information, time, and effort to find out about openings, wages; time to apply, interview, relocate
- This includes monetary costs, time costs, and psychic costs (missing your friends, coworkers, community)
- Implication: NOT costless for employees to move.

- Implications → firm faces upward sloping labor supply curve
- The higher the costs the steeper the Ls curve the firm faces
- Definition of monopsony: if individual firm faces an upward sloping S curve (similar to definition of market power for firms and upward sloping D curve)
- Extreme case: single firm in isolated community.
 - Example: Artic drilling?
 - In this case, to increase labor the firm must (a) attract new entrants into community, (b) attract people out of retirement, or (c) attract people from other occupations
- Don't need extreme case.
- With monopsony (of any degree) firm must increase wages to attract more workers

Two types of monopsonistic firms

- Perfectly discriminating
 - Able to hire different workers at different wages
 - When “perfectly discriminating” each worker is paid his or her reservation wage
- Nondiscriminating [our case]
 - Must pay all workers the same wage, regardless of each worker’s reservation wage
 - So if the firm raises the wage to attract a new worker then the firm must raise the wage of all workers
 - Marginal cost of hiring additional worker is HIGHER than the wage!

Nondiscriminating Monopsonist



KEY: the firm maximizes by hiring labor up until

$$MC = MB$$

BUT $MC \neq \text{wage}$ since they face the upward sloping S curve [$MC = w$ for perf comp market]

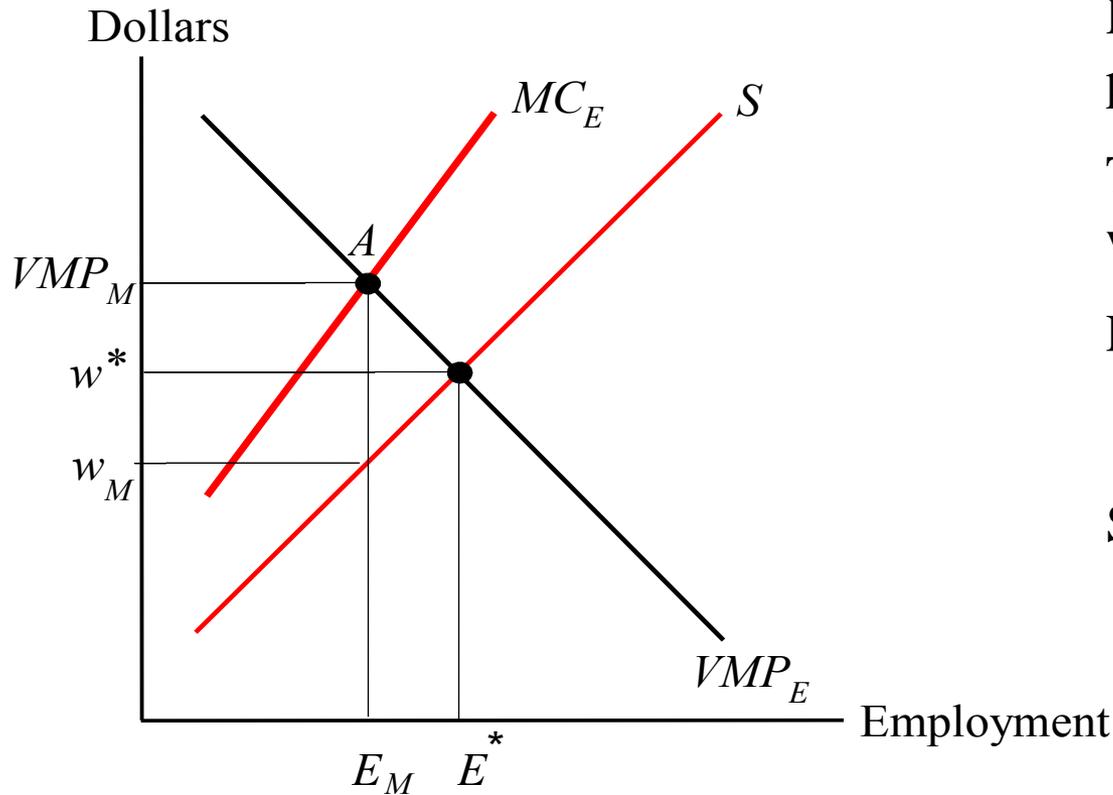
Because they have to raise wages to get new workers AND pay that wage to the rest of the workers, the MC is above the S curve and steeper than the S curve .

Example

Offered Wage	Supply of labor	Total hourly labor cost	MC of labor
\$8	10	\$80	
\$9	11	99	19
\$10	12	120	21
\$11	13	143	23

When employers are not price takers, the marginal cost of hiring an additional worker exceeds the wages paid to the last worker hired.

The Hiring Decision of a Nondiscriminating Monopsonist



Profit maximization occurs at point A ($MC=MB$)

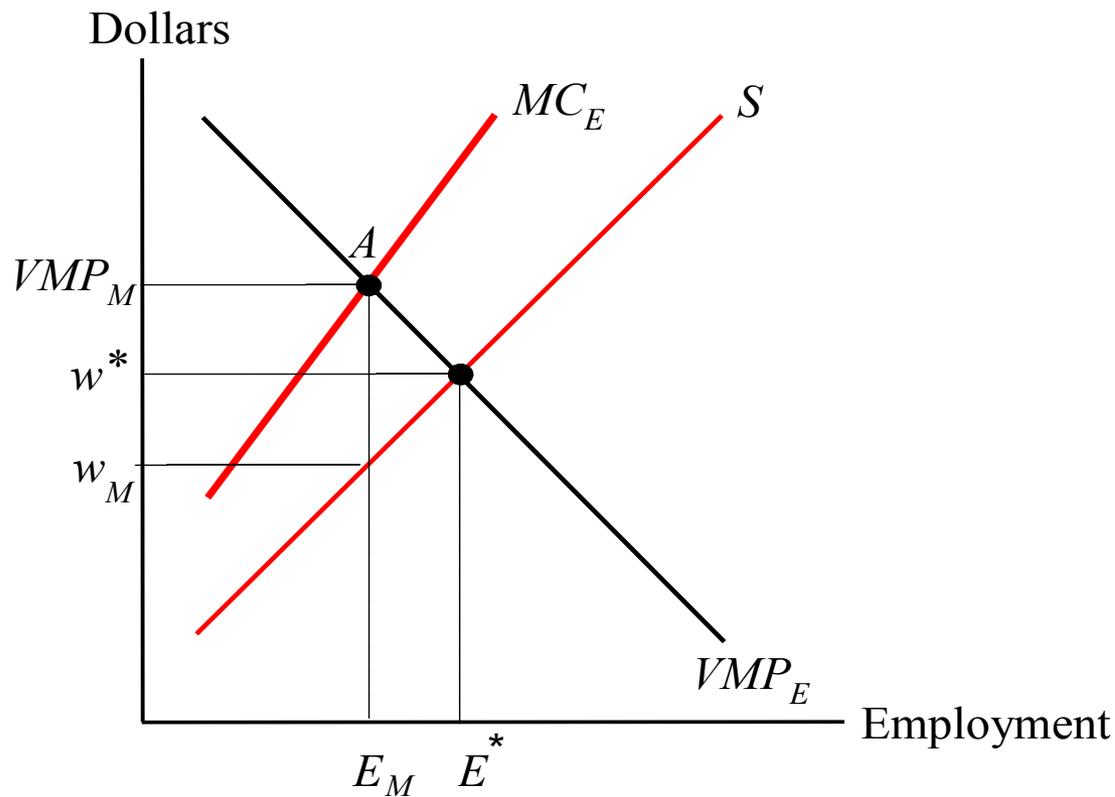
The monopsonist hires E_M workers and

Pays them a wage of w_M .

Sorry about notation

$$VMP = MRP$$

$$E = L$$



Monopsonist:

E_M workers

Wage of w_M

Perfectly competitive market:

E^* workers

w^* wage

So in this case we have:

Less hiring

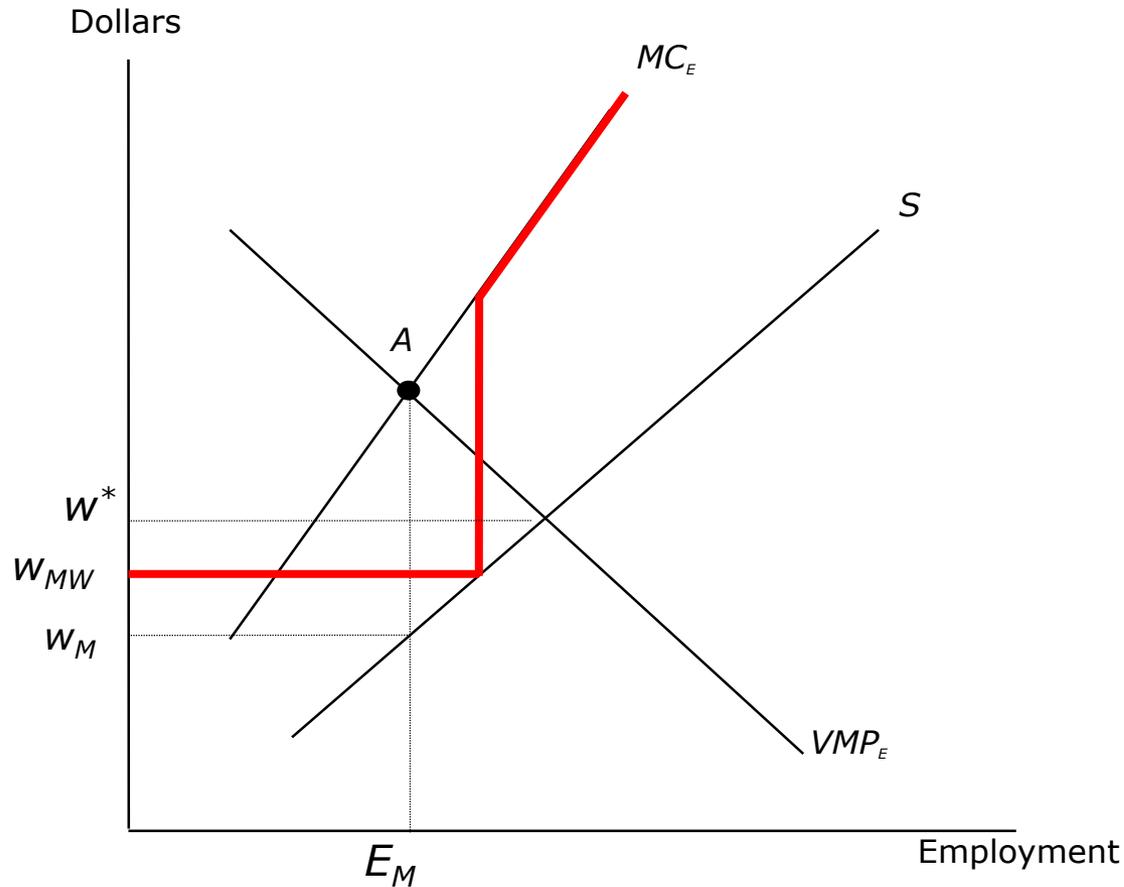
Lower wage

Workers paid below their MP

Firm is a wage setter (to some degree)

- In general, search frictions generate costs for potential workers and will dull the instantaneous response of workers to potential wage distributions.
- Employers can under-pay workers (and under-employ) relative to their marginal revenue product and not lose all workers as a result
- Less mobile groups will be paid less (“captured” in lower wage opportunities)
- Employers have “power” in the labor market over relatively immobile workers

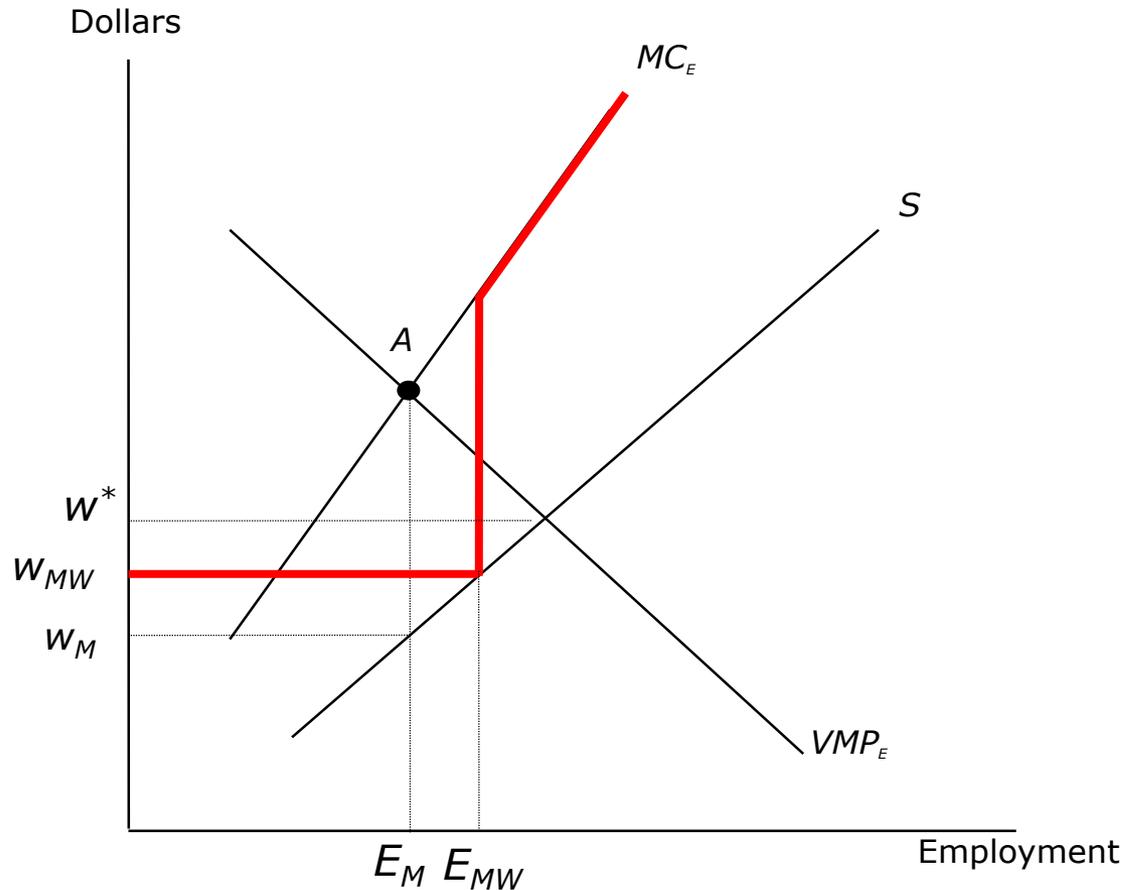
Impacts of MW on outcomes for monopsonist



A minimum wage of w_{MW} changes the MC of labor curve.

Horizontal until it gets to the upward sloping S curve then back up to the MC curve

The Impact of the Minimum Wage on a Nondiscriminating Monopsonist



As before firm profit maximizes where

$$MC = VMP$$

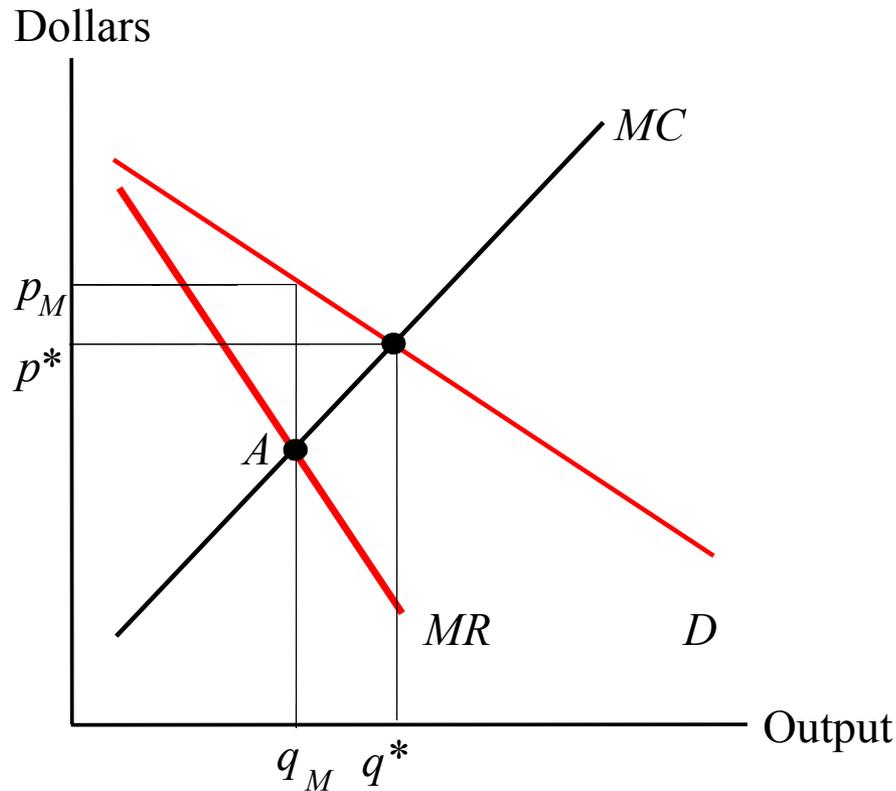
Implications:

Wage rises from w_M to w_{MW}

Employment rises E_M to E_{MW}

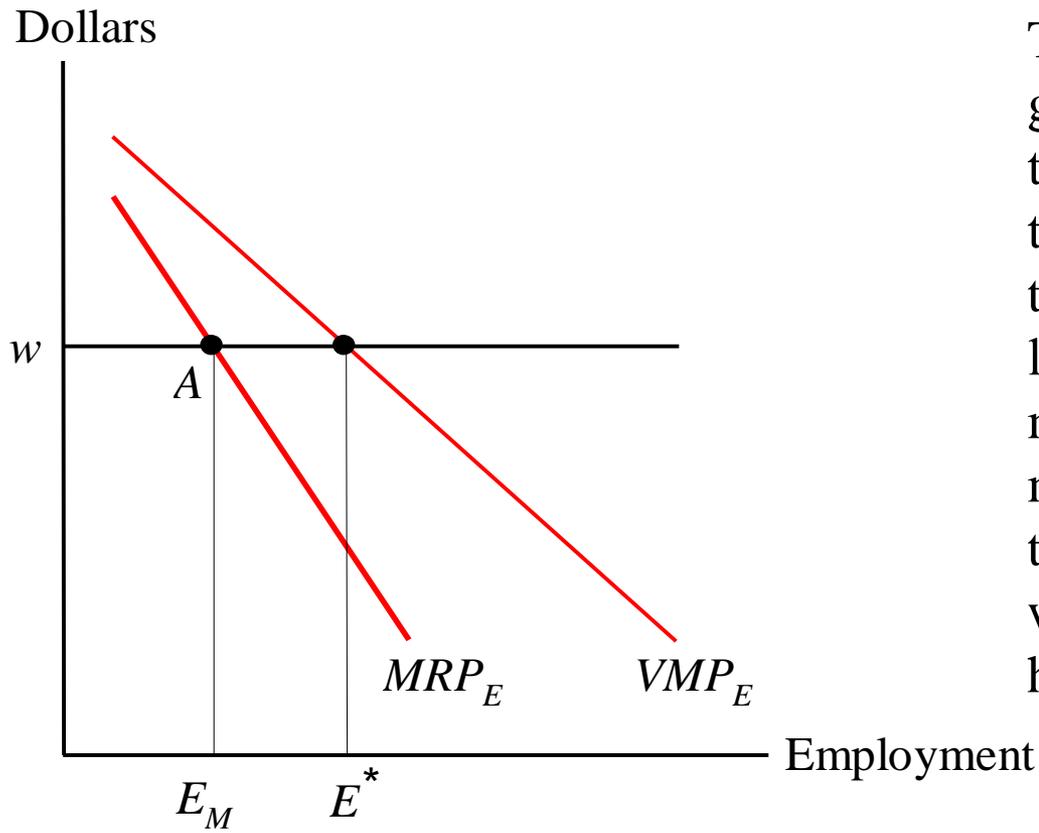
- Two effects:
 - Some firms might go out of business (E declines)
 - Rest of firms increase E
- Firms no longer have to give raises to attract additional workers and thus the minimum wage eliminates the incentive to under-employ in order to identify those with the lowest reservation wages.
- At some point the MW can be high enough that we get back to perfectly competitive case where we have decreases in E. But by all accounts we are far below that now. But we will see moving forward.

The Output Decision of a Monopolist



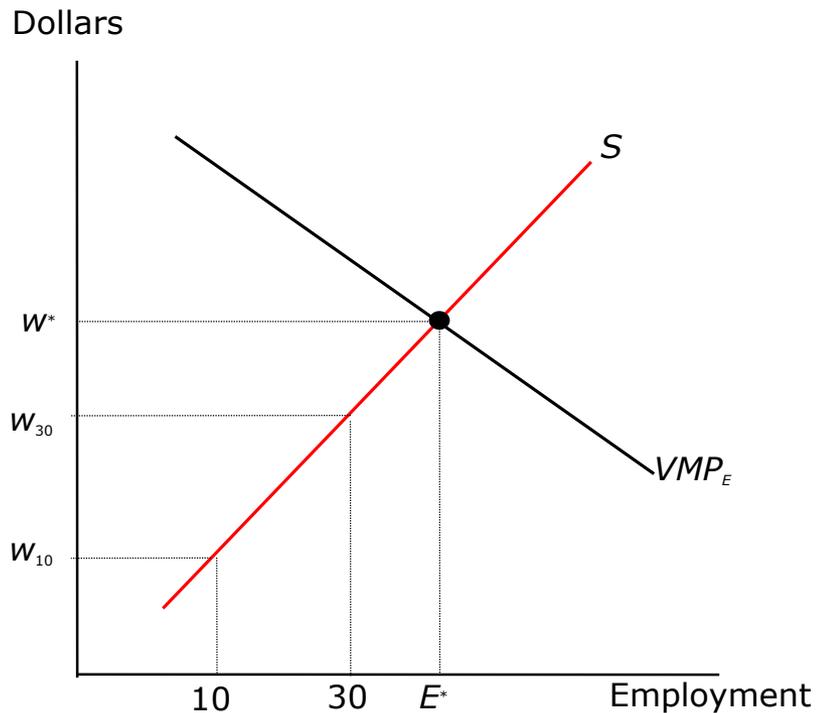
A monopolist faces a downward-sloping demand curve for his output. The marginal revenue from selling an additional unit of output is less than the price of the product. Profit maximization occurs at point A; a monopolist produces q_M units of output and sells them at a price of p_M dollars.

The Labor Demand Curve of a Monopolist



The marginal revenue product gives the worker's contribution to a monopolist's revenues (or the worker's marginal product times marginal revenue), and is less than the worker's value of marginal product. Profit maximization occurs at point A ; the monopolist hires fewer workers (E_M) than would be hired in a competitive market.

The Hiring Decision of a Perfectly Discriminating Monopsonist



A perfectly discriminating monopsonist faces an upward-sloping supply curve and can hire different workers at different wages. The labor supply curve gives the marginal cost of hiring. Profit maximization occurs at point A . The monopsonist hires the same number of workers as a competitive market, but each worker gets paid his reservation wage.

Early Childhood Education

PP290

Hilary Hoynes

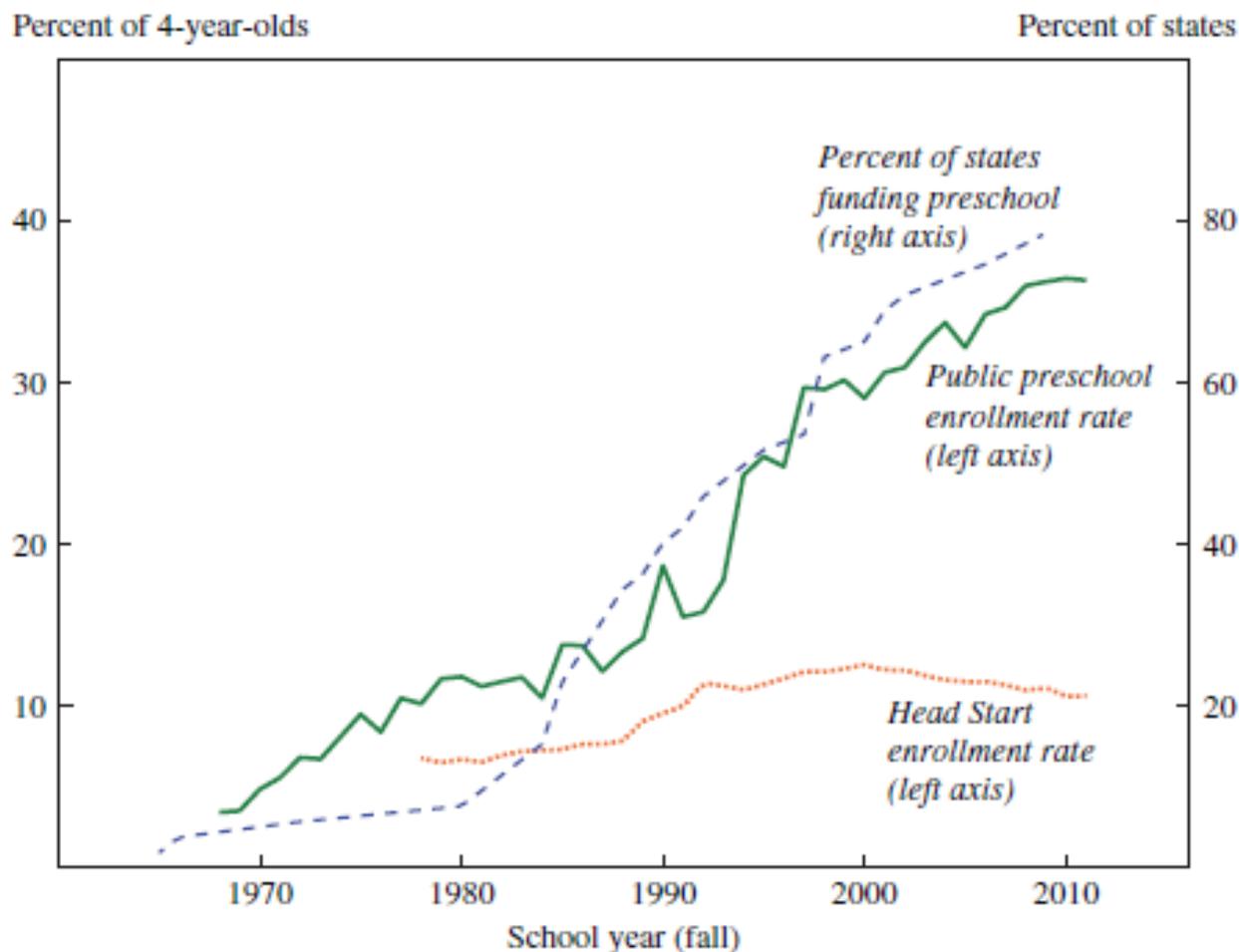
Outline

1. Schematic of pre-K policies (Cascio & Schanzenbach THP)
2. Long term effects of head start
3. Lessons from head start impact study
4. [in slides] What are the effects of state Pre-K programs?

Schematic: where we are

- We are studying three distinct types of policies aimed at reducing poverty:
 1. Tax and transfer (“safety net”) programs that redistribute income and other resources after the market system has allocated income.
 2. Institutional features of the market system (e.g., collective bargaining systems, the minimum wage) that affect how much income economic actors receive.
 3. Interventions that affect people’s income-earning potential (e.g., education, healthcare, job training, substance abuse treatment).

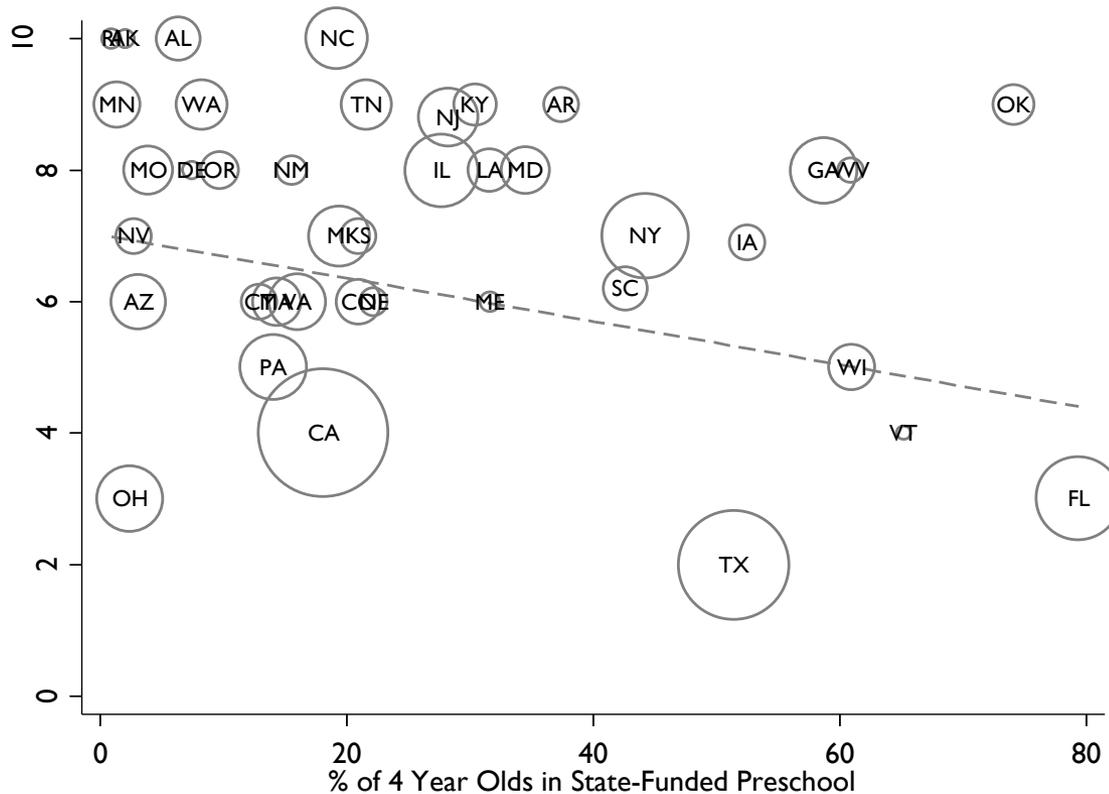
Figure 1. Percent of 4-Year-Olds Enrolled in Public Preschool Programs and Percent of States Funding Preschool Programs, 1965–2011



Sources: October CPS (public preschool enrollment rate), Head Start Bureau (numerator of Head Start enrollment rate), Vital Statistics (denominator of Head Start enrollment rate), and National Institute for Early Education Research (state funding dates).

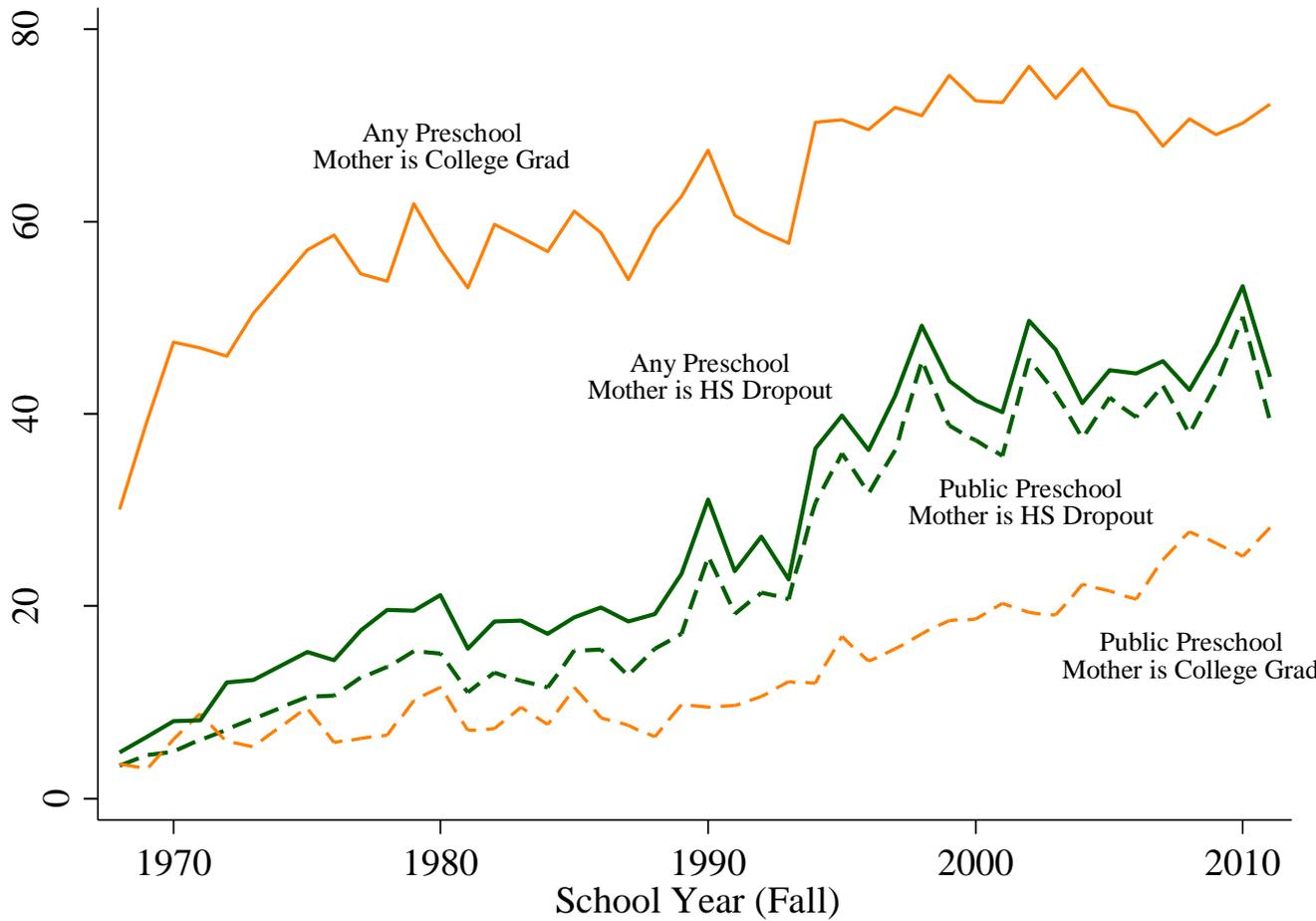
Substantial variation among state programs

Access & Quality in State-Funded Preschools, 2011-2012



- ▶ Quality “checklist” (from NIEER) based on inputs
 - ▶ Teacher training
 - ▶ Class size
 - ▶ Support services

Disparities in Access



- Most high-SES children attend preschool
 - Overwhelmingly private preschool
- Low-SES attendance grown
 - Almost all public programs
 - State-funded programs
 - Head Start ~10%
- Attendance gap mirrors achievement gap

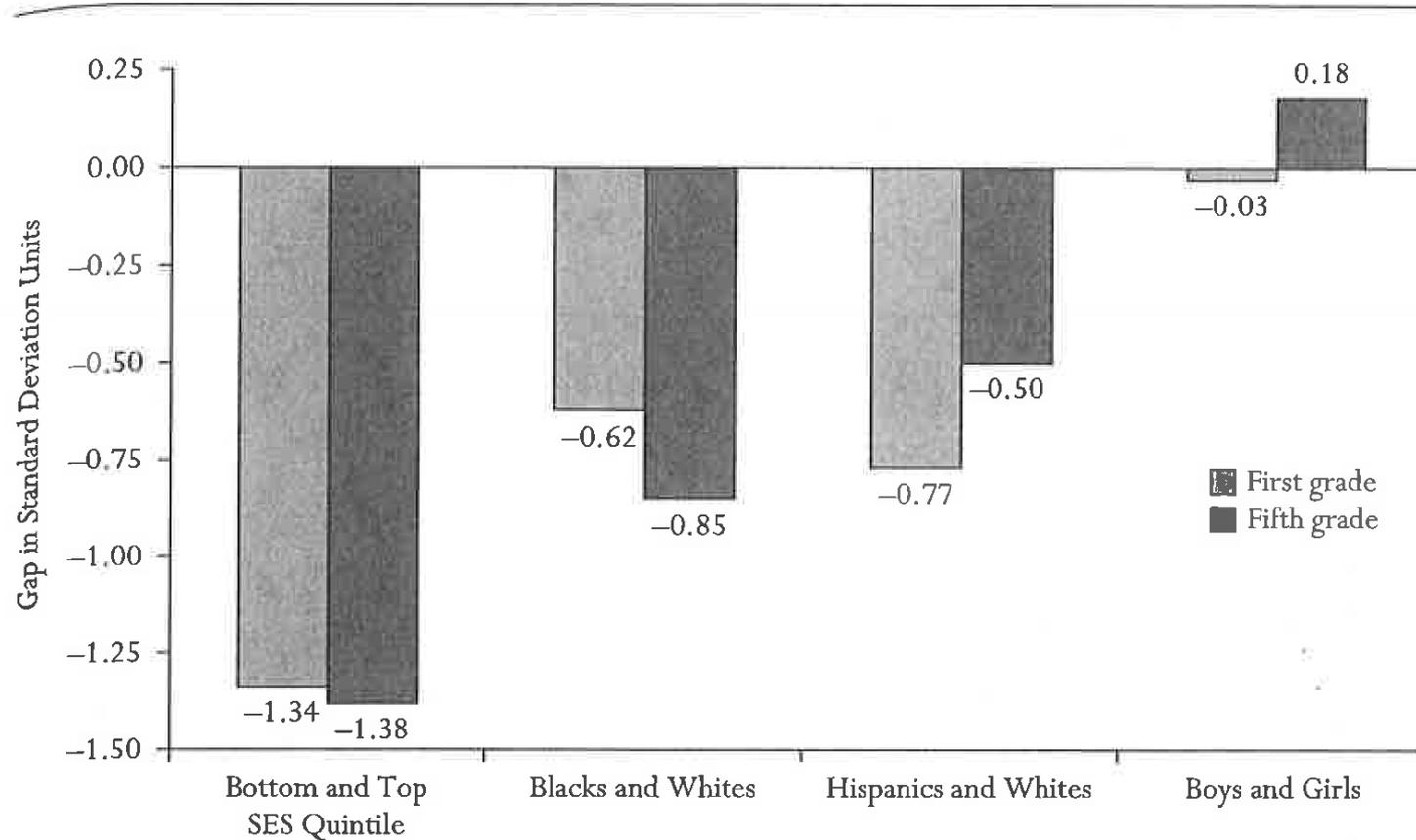
Head Start is an important preschool program for low-income children

	All Kids	Income in Bottom 20%	Income in Top 20%
<i>3-year olds</i>			
Head Start	8	20	1
Special Education	4	1	10
Private	36	22	68
Other Public	3	3	3
Any Preschool	51	45	82
<i>4-year olds</i>			
Head Start	13	29	0
Special Education	6	2	4
Private	42	22	75
Other Public	13	11	12
Any Preschool	74	64	90

Source: Haskins and Barnett (2010), from 2005 NHES.

SES disparities are large

FIGURE 3.2 *Math Gaps in Kindergarten and Fifth Grade*

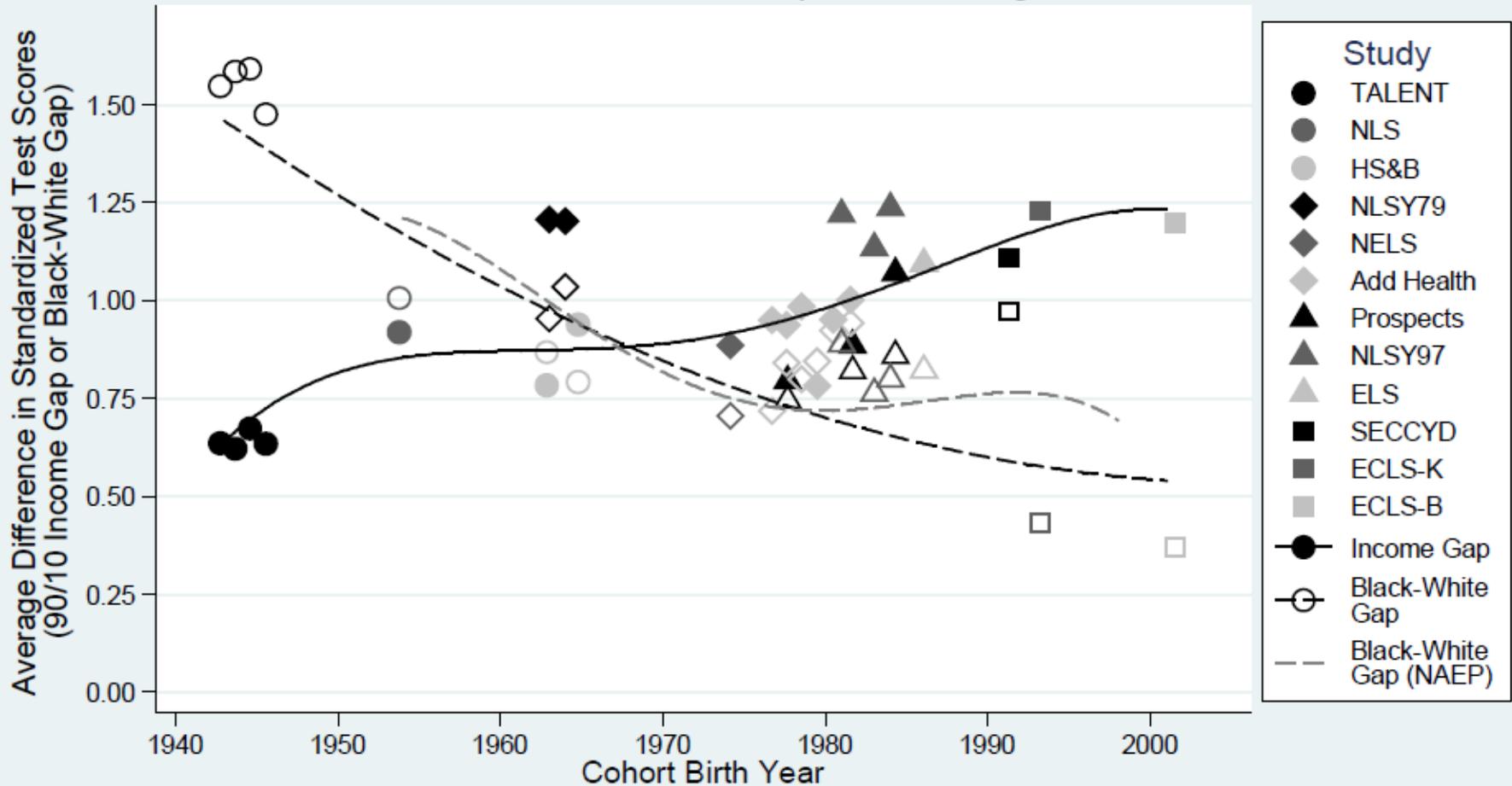


Source: Authors' calculations based on Early Childhood Longitudinal Study, Kindergarten Cohort (National Center for Education Statistics n.d.).

Source: Greg Duncan and Katherine Magnuson "The Nature and Impact of Early Achievement Skills, Attention and Behavior Problems," in *Whither Opportunity*, Duncan and Murnane, 2011.

Income inequalities are increasing (while racial inequalities are decreasing)

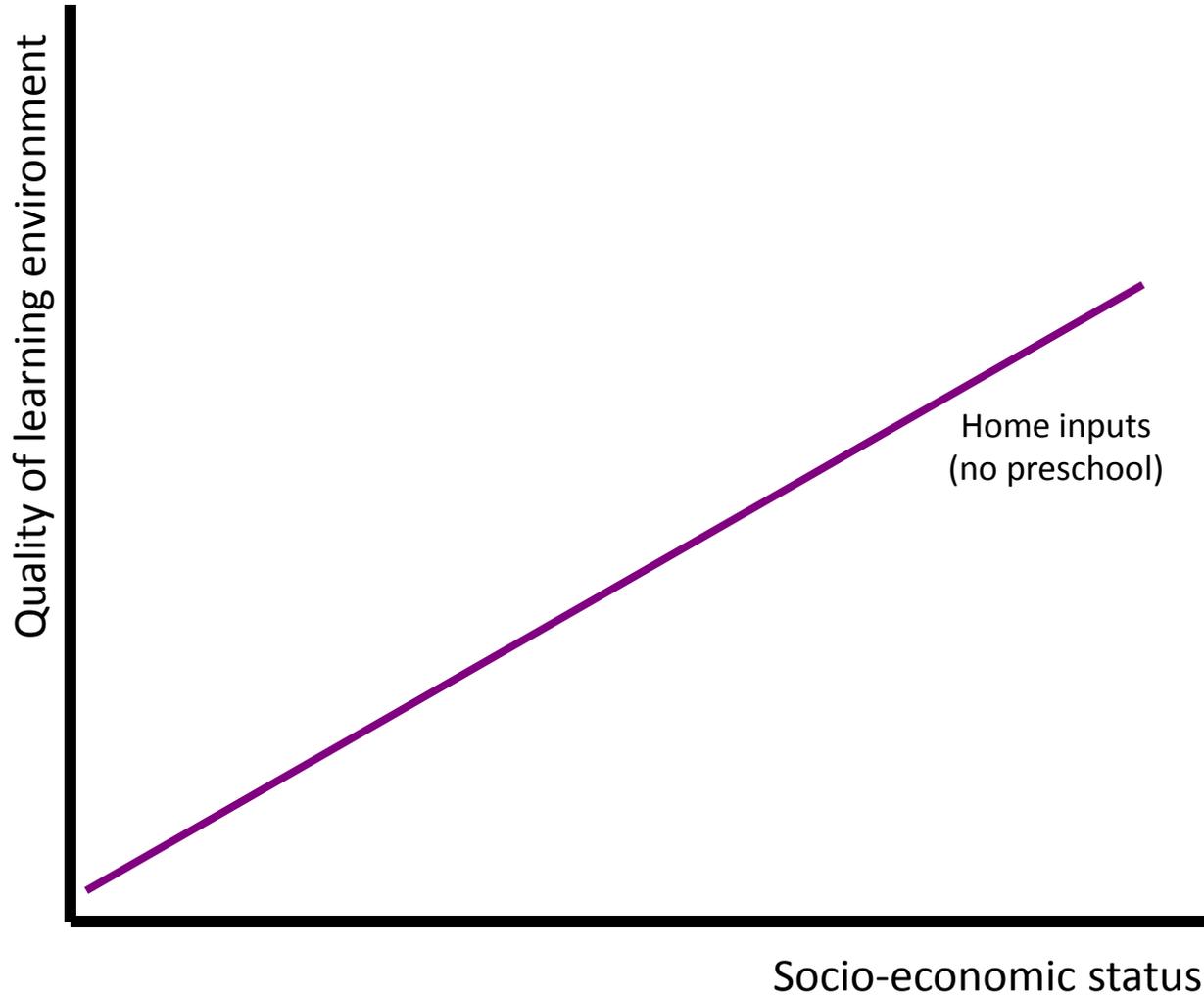
Trends in Income and Black-White Gaps in Reading, 1943-2001 Cohorts



Source: Sean Reardon "The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations," in *Whither Opportunity*, Duncan and Murnane, 2011

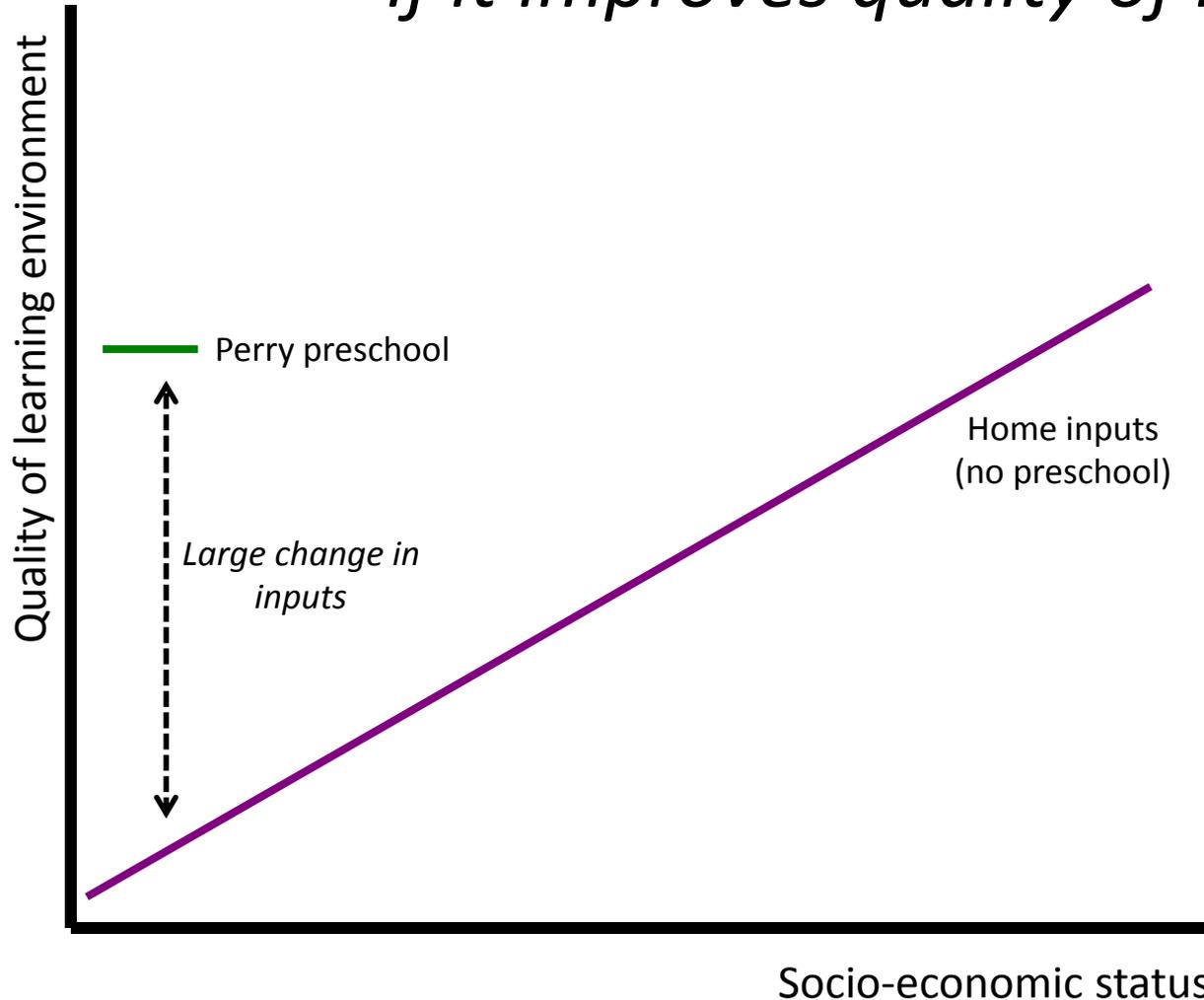
Options for state pre-K programs
(Cascio and Schanzenbach The Hamilton
Project)

Basic setup



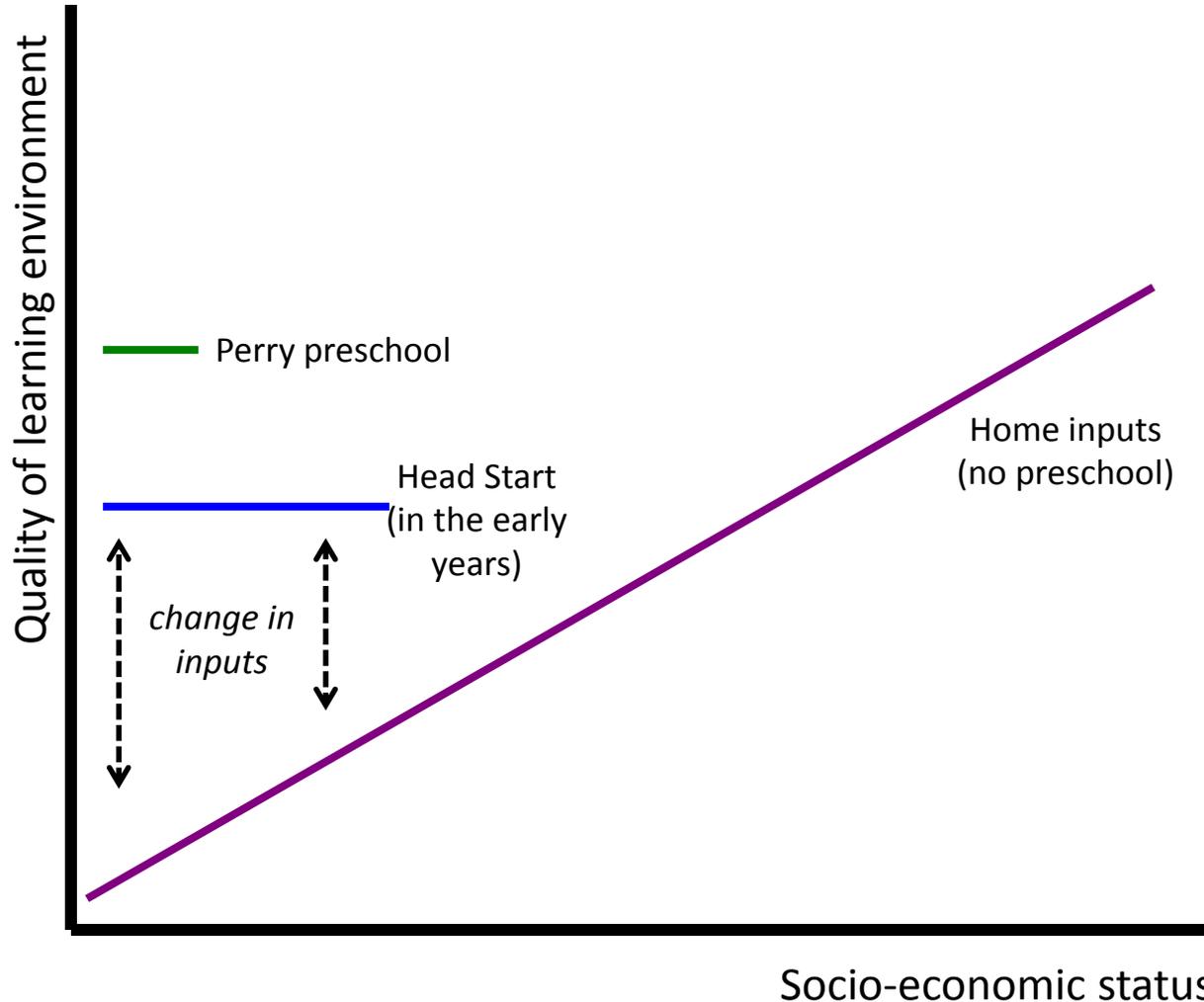
- ▶ X axis = SES
- ▶ Y axis = potential human capital
- ▶ Without any program, those with more resources have a greater ability to generate higher human capital outcomes
- ▶ Use this framework to think about possible policies:
 - ▶ Targeted versus universal
 - ▶ High versus low quality
 - ▶ Substitution out of private market is possible (“crowdout”)

Preschool can increase learning *if it improves quality of inputs*



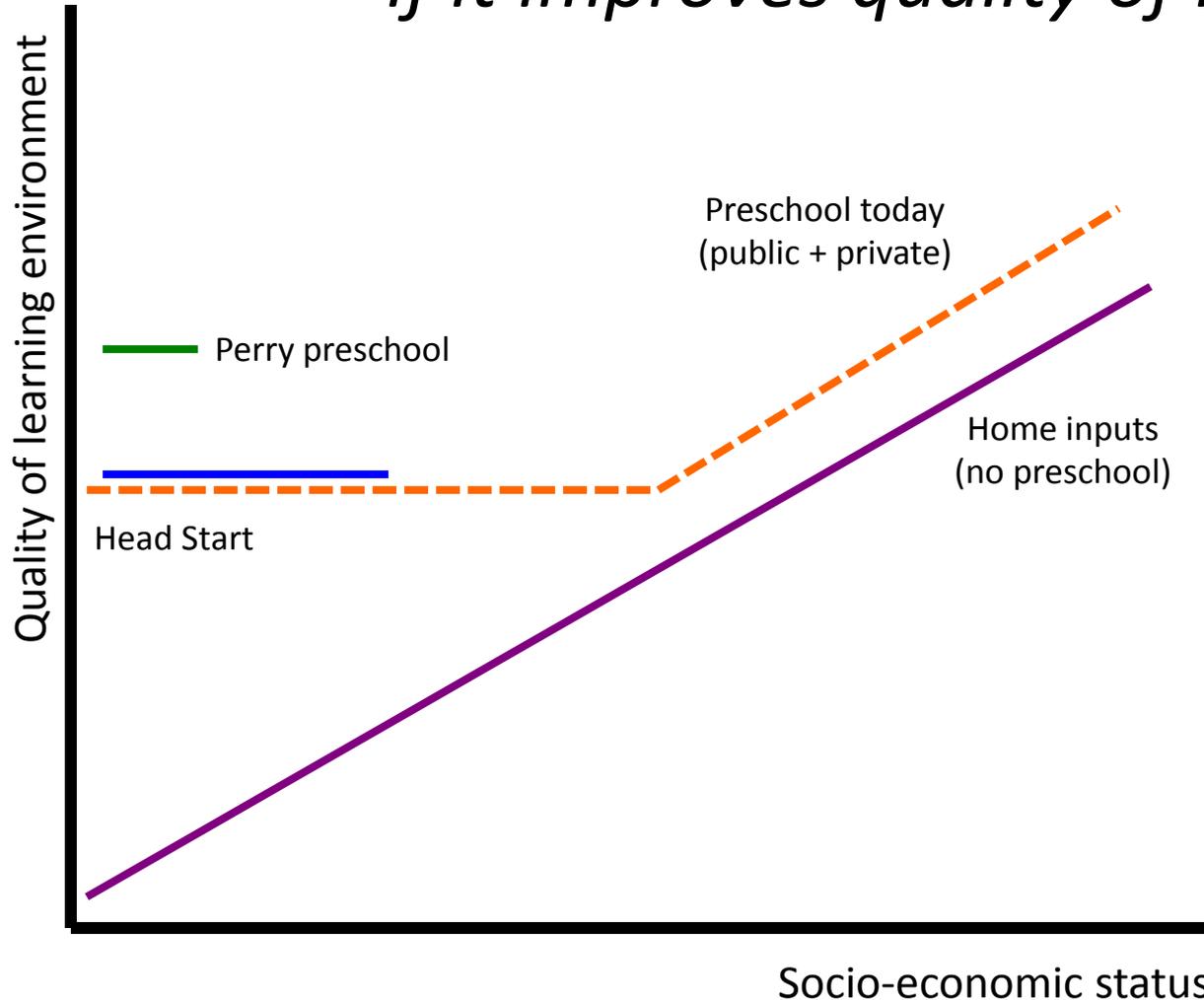
- ▶ Perry preschool
 - ▶ Narrowly targeted
 - ▶ Intensive intervention
 - ▶ Large change in learning environment
- ▶ Strong lifetime impacts
 - ▶ \$8 return for every \$1 spent (Heckman)

Preschool can increase learning *if it improves quality of inputs*



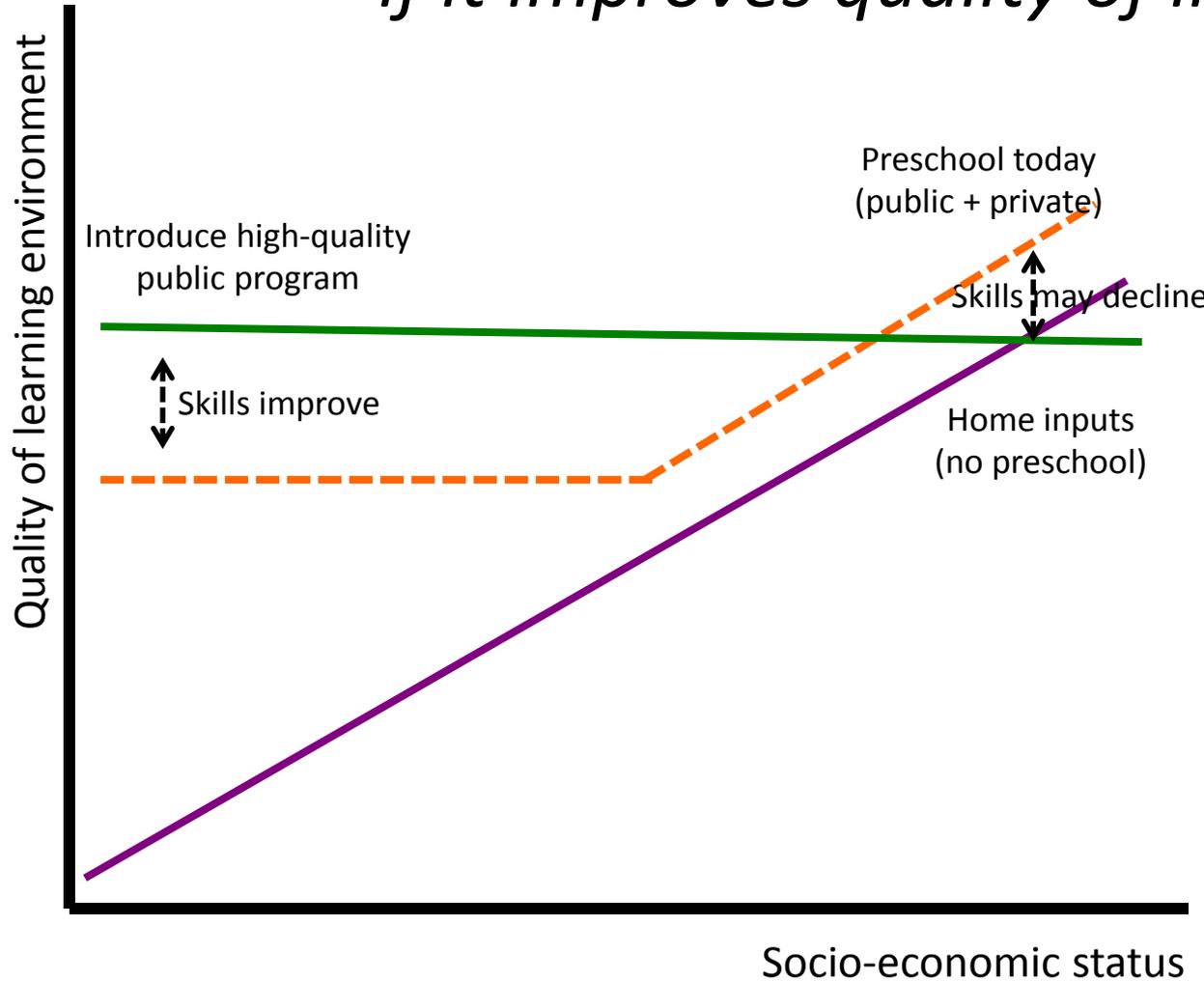
- ▶ Head Start
 - ▶ (less) Narrowly targeted
 - ▶ Less intensive intervention
 - ▶ Substantial (but smaller) change in learning environment
- ▶ Positive lifetime impacts
 - ▶ Smaller than Perry
 - ▶ Currie, Deming

Preschool can increase learning *if it improves quality of inputs*



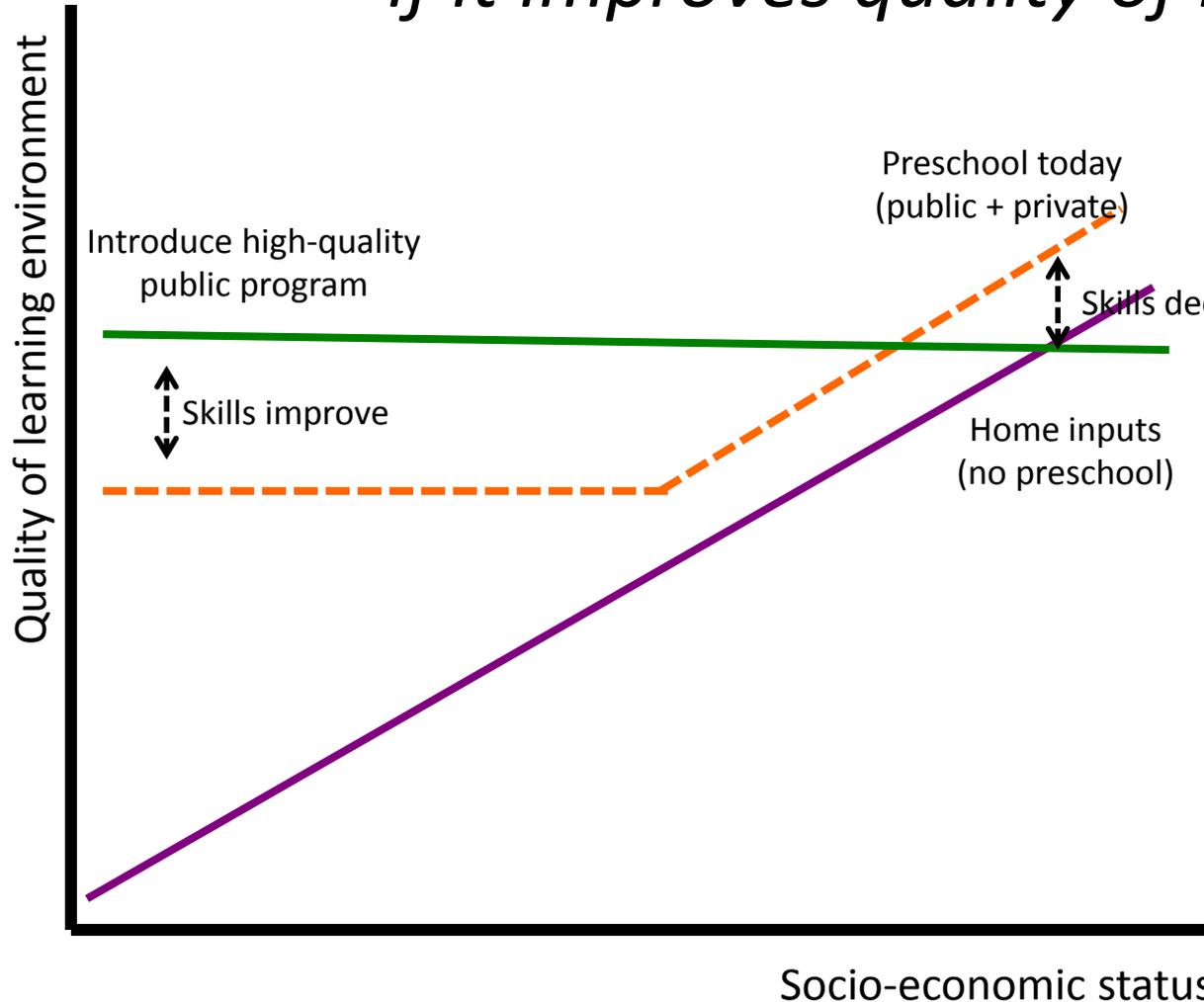
- ▶ Preschool today
 - ▶ More children attend overall
 - ▶ Low-SES attend public programs, varied quality
 - ▶ High-SES attend private, high quality programs
 - ▶ Head Start less likely to represent improvement *relative to counterfactual* (HSIS)

Preschool can increase learning *if it improves quality of inputs*



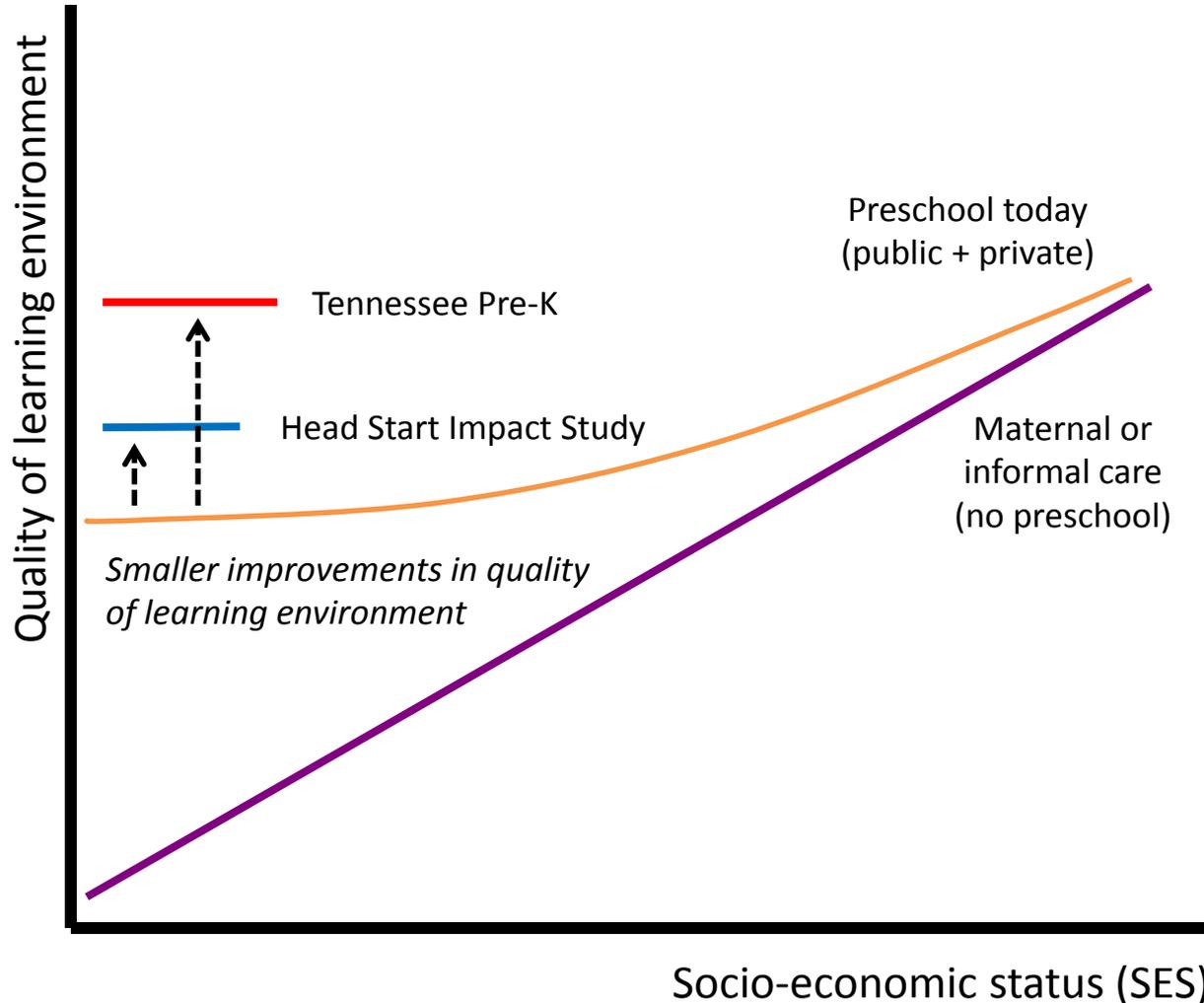
- ▶ High-quality public program: low SES
 - ▶ Improves skills
 - ▶ Smaller improvement than literature b/c counterfactual higher
- ▶ High-quality public program: high-SES
 - ▶ Substitution from private to public
 - ▶ May reduce skills
 - ▶ Families better off, less out of pocket spending

Preschool can increase learning *if it improves quality of inputs*



- ▶ Impact depends on
 - ▶ Quality of the counterfactual
 - ▶ Level of quality of new public program
 - ▶ Extent of substitution from private to public (this also impacts cost)

Understand the Counterfactual



- Public programs have “shored up” learning environments of low-SES children
- Thus expect modern early intervention to have smaller impacts than model programs

Cascio/Schanzenbach Approach: Context-specific preschool expansion

- No program?
 - Start a high-quality, targeted program
- Existing lower-quality program?
 - Improve quality
- Existing higher-quality program?
 - Expand access

Research Designs: Early Childhood Education

- **Experiments**

- Perry Preschool (1960s), Carolina Abecedarian (1970s)
- Head Start Impact Study (2002)
- Tennessee Voluntary Pre-K Evaluation (2009)

← Programs
operating at
scale

- **Quasi-experiments**

- Sibling comparisons (Head Start)
- “Regression-discontinuity” models (state pre-K programs), based on income eligibility RD or age of child RD
- “Difference-in-differences” models (K and pre-K in the US, public preschool and childcare programs worldwide)

Non-experimental evidence on the effects of Head Start

Summary of non-experimental evidence on Head Start

- Effects on cognitive skills: Several studies use sibling / family fixed effects design and find positive effects on test scores but they fade out (Currie and Thomas 1995, Garces, Currie & Thomas 2002)
- Longer term outcomes: Consistent evidence using different quasi experimental designs that despite the fadeout in test scores, there are positive effects on longer term health, education and labor market outcomes
 - Deming (2009), Garces et al (2002) sibling / family fixed effects
 - Miller & Ludwig (2007) RD on program rollout
 - Carneiro & Ginja (2014) RD on income eligibility rules

Sibling, Family Fixed Effect Estimators

$$Y_{ij} = \alpha + \beta_1 HS_{ij} + \beta_2 PRE_{ij} + \delta \mathbf{X}_{ij} + \gamma_j + \varepsilon_i,$$

- i = individual, j = family
- HS is “treatment” indicator, β_1 is the parameter of interest (PRE is other preschool dummy, omitted group is no preschool)
- γ_j is a dummy for family j (family or sibling fixed effect)
- X are pre-treatment characteristics (such as maternal education)

Sibling, Family Fixed Effect Estimators

- Need to have different choices for the siblings to contribute to the identification of the HS treatment effect (one in HS one not)
- Identifying assumption: whatever causes different treatment across children, it is not related to determinants of the outcome variable
- Family FE absorb what is constant across kids, which is great. But what is different that one is at HS and the other is not? More able or less able? Related to maternal labor supply?
- In 1980s and early 1990s this was considered a strong research design (better than comparing HS to non-HS overall). Now we have concerns about how much bias there might be in the family FE estimator

Deming's paper and findings: Data

- National Longitudinal Mother-Child Supplement (CNLSY), which surveyed the mothers of the NLSY 1979 every two years from 1986 until 2004
- Birth cohorts for children: enrolled in Head Start between 1984 and 1990
- Sample restricted to those who were 4 by 1990 (so could observe long run outcomes; all were age 19+ by 2004) and those in families with at least two age-eligible children (for sibling difference model)
- 3,698 children

Outcomes

- School age outcomes:
 - Cognitive scores (Peabody Picture Vocabulary Test PPVT, the Peabody Individual Achievement Test PIAT) for ages 5-14
 - grade retention and the diagnosis of a learning disability
- Young adult outcomes:
 - High school graduation, college attendance, “idleness,” crime, teen parenthood, and health status.

Standardized indices

- Idea is to aggregate information over multiple outcomes
 - Improve statistical power
 - Deals with “multiple inference” problem
 - Reduces measurement error
- Normalize each outcome to have mean zero and standard deviation 1 (z-score). Turn all outcomes so positive means good.
- Summary measure is average of the z-score of each component (simple average, equal weighted) [j is the outcome, i is individual]

$$y_i = \frac{1}{J} \sum_j \frac{y_{ij} - \mu_j}{\sigma_j}$$

TABLE 3—THE EFFECT OF HEAD START ON COGNITIVE TEST SCORES

	→ (1)	(2)	(3)	(4)	(5)	
Head Start						
Ages 5–6	OLS, selection into HS vs PRE	–0.025 (0.091)	0.081 (0.083)	0.093 (0.079)	0.131 (0.087)	0.145* (0.085)
Ages 7–10		–0.116 (0.072)	0.040 (0.065)	0.067 (0.061)	0.116* (0.060)	0.133** (0.060)
Ages 11–14		–0.201*** (0.070)	–0.053 (0.065)	–0.017 (0.061)	0.029 (0.061)	0.055 (0.062)
Other preschools						
Ages 5–6		0.167** (0.083)	0.022 (0.082)	–0.019 (0.078)	–0.102 (0.084)	–0.079 (0.085)
Ages 7–10		0.230*** (0.070)	0.111* (0.064)	0.087 (0.061)	0.031 (0.061)	0.048 (0.065)
Ages 11–14		0.182** (0.072)	0.076 (0.068)	0.037 (0.065)	–0.040 (0.066)	–0.022 (0.069)
Permanent income (standardized) mean (0), SD (1)				0.112* (0.064)		
Maternal AFQT (standardized) mean (0), SD (1)				0.353*** (0.057)		
Mom high school				0.141** (0.071)		
Mom some college				0.280*** (0.080)		
<i>p</i> (all age effects equal—Head Start)		0.074	0.096	0.161	0.092	0.151
Pre-treatment covariates		N	Y	Y	N	Y
Sibling fixed effects		N	N	N	Y	Y
Total number of tests		4,687	4,687	4,687	4,687	4,687
<i>R</i> ²		0.028	0.194	0.268	0.608	0.619
Sample size		1,251	1,251	1,251	1,251	1,251

↑
Fadeout
in effects
on
cognitive
scores

Notes: The outcome variable is a summary index of test scores that includes the child's standardized PPVT and

TABLE 5—POINT ESTIMATES FOR INDIVIDUAL OUTCOMES

	All	Black	Nonblack	Male	Female	Low AFQT	High AFQT
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grade repetition	-0.069* (0.040)	-0.107* (0.056)	-0.027 (0.059)	-0.204*** (0.058)	0.055 (0.057)	-0.140** (0.069)	-0.031 (0.050)
Learning disability	-0.059*** (0.021)	-0.071** (0.028)	-0.046 (0.030)	-0.047 (0.030)	-0.070*** (0.026)	-0.109*** (0.042)	-0.032 (0.021)
High school graduation	0.086*** (0.031)	0.111*** (0.041)	0.055 (0.048)	0.114** (0.048)	0.058 (0.044)	0.167*** (0.056)	0.042 (0.036)
not including GED	0.063* (0.034)	0.067 (0.044)	0.058 (0.051)	0.108** (0.052)	0.021 (0.047)	0.126** (0.063)	0.027 (0.038)
At least one year of college attempted	0.057 (0.036)	0.136*** (0.049)	-0.034 (0.050)	0.022 (0.045)	0.091* (0.054)	0.012 (0.051)	0.082* (0.047)
Idle	-0.071* (0.038)	-0.030 (0.053)	-0.123** (0.055)	-0.100** (0.049)	-0.043 (0.052)	-0.070 (0.070)	-0.072 (0.045)
Crime	0.019 (0.040)	0.051 (0.050)	-0.020 (0.062)	0.036 (0.058)	0.002 (0.057)	0.038 (0.072)	0.008 (0.047)
Teen parenthood	-0.019 (0.036)	-0.040 (0.052)	-0.001 (0.053)	0.011 (0.052)	-0.047 (0.056)	-0.038 (0.065)	-0.008 (0.043)
Poor health	-0.070*** (0.026)	-0.047 (0.035)	-0.094** (0.043)	-0.036 (0.037)	-0.102** (0.042)	-0.090* (0.047)	-0.060* (0.033)

TABLE 4—THE EFFECT OF HEAD START OVERALL AND BY SUBGROUP

	Test scores				Nontest score	Long term
	5–6 (1)	7–10 (2)	11–14 (3)	5–14 (4)	7–14 (5)	19+ (6)
<i>Panel A: Overall</i>						
Head Start	0.145* (0.085)			0.01 (0.57)	0.265*** (0.082)	0.228*** (0.072)
Other preschools	-0.079 (0.085)			0.12 (0.62)	0.172* (0.088)	0.069 (0.072)
<i>p</i> (HS = preschool)	0.021			0.18	0.372	0.080
<i>Panel B: By race</i>						
Head Start (black)	0.287*** (0.095)			0.07 (0.72)	0.351*** (0.120)	0.237** (0.103)
Head Start (white/Hispanic)	-0.057 (0.120)	0.111 (0.092)	0.156 (0.095)	0.110 (0.090)	0.177 (0.111)	0.224** (0.102)
<i>p</i> (black = nonblack)	0.024	0.895	0.308	0.982	0.282	0.924
<i>Panel C: By gender</i>						
Head Start (male)	0.154 (0.107)	0.181** (0.079)	0.141** (0.081)	0.159** (0.076)	0.390*** (0.123)	0.182* (0.103)
Head Start (female)	0.128 (0.106)	0.059 (0.083)	0.033 (0.085)	0.055 (0.081)	0.146 (0.108)	0.272** (0.106)
<i>p</i> (male = female)	0.862	0.287	0.357	0.346	0.135	0.553
<i>Panel D: By maternal AFQT score</i>						
Head Start (AFQT ≤ -1) (<i>n</i> = 361)	0.171 (0.129)	0.016 (0.095)	-0.023 (0.102)	0.015 (0.094)	0.529*** (0.156)	0.279** (0.114)
Head Start (AFQT > -1) (<i>n</i> = 890)	0.133 (0.094)	0.172** (0.073)	0.144* (0.074)	0.154** (0.071)	0.124 (0.091)	0.202** (0.091)
<i>p</i> (low = high AFQT)	0.809	0.198	0.192	0.245	0.024	0.595

Long term
outcomes as an
index

Non Test Score =
grade retention,
learning disability

“Fade out and bounce back”

- This has been found in other interventions:
 - Tennessee STAR class size reduction (cognitive effects decline but more college enrollment increases)
- Possible reasons for why we have long term benefits without persistent test score gains
 - Noncognitive is what really matters
 - Changing parental behaviors is what matters (Gelber & Isen)
 - Early cognitive outcomes are what really matter

(Briefly) lessons from the
The Head Start Impact Study

Head Start Impact Study

- Mandated by Congress in 1998 (as part of reauthorization); goal to assess effects on school readiness and parental outcomes.
- First randomized experimental evaluation of HS
- Randomly assigned 3- and 4-year old children at oversubscribed programs to either an offer of placement in a HS program or no offer → “lottery design”
- Treatment is offer for slot for one year
- All students are first time applicants
- Sample: 2,449 in 3-year cohort, 1,993 in 4-year cohort
- 84 HS regional programs; randomization at 353 centers
- Followed through Gr 5 (Avi working on raising \$ to do longer term evaluation)

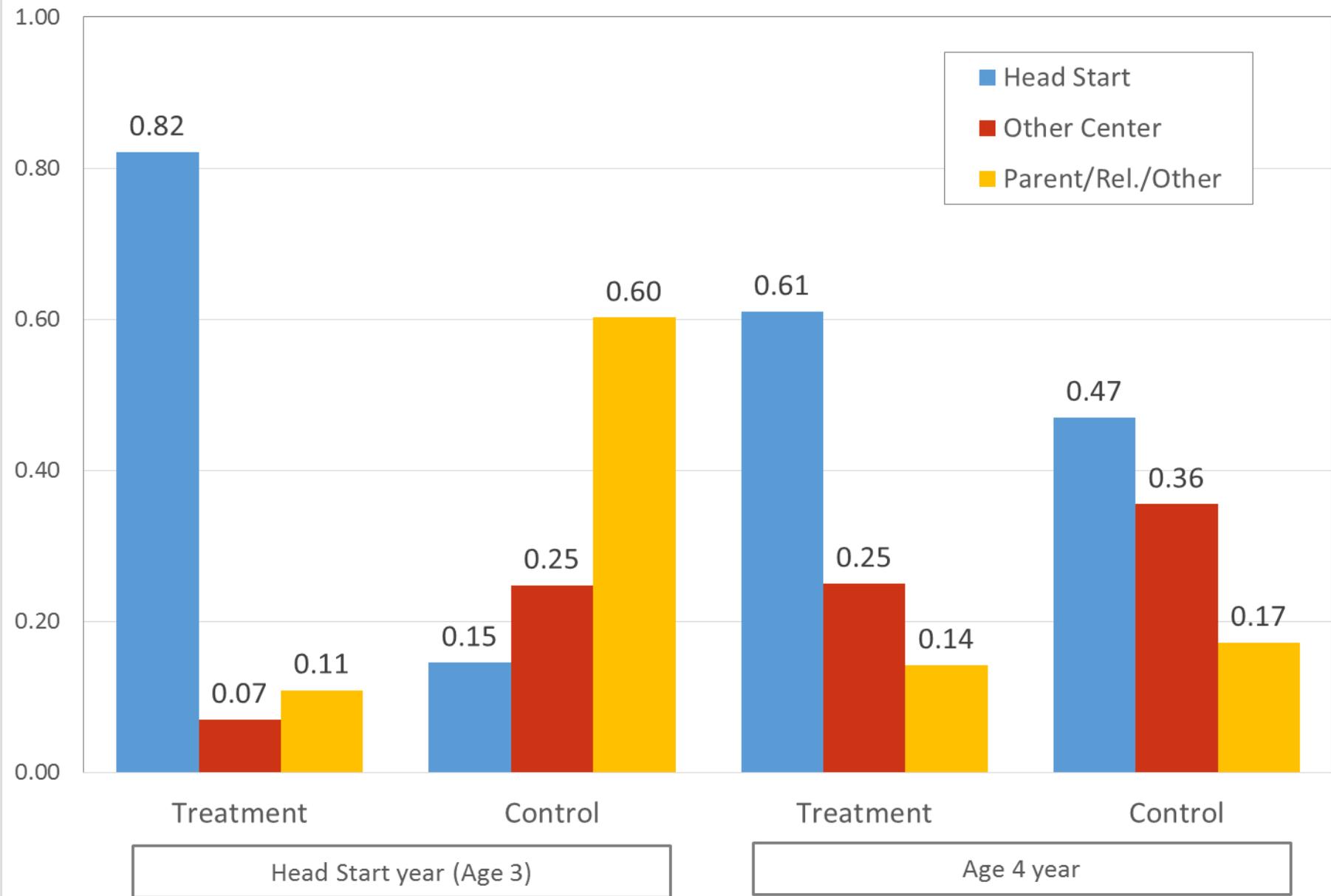
It's a GSPP and Cal Affair ...

- Using the HSIS, Gelber and Isen (2011) find HS leads to improvements in parental involvement (some human capital enhancing) that persist.
- Feller et al (2014) and Kline and Walters (2014) explore heterogeneity in impacts due to the counterfactual care setting.
- Walters (2014) finds evidence of larger treatment effects in centers with full-day programs and more significant home visiting programs
- Bitler and Hoynes (2015) where HS gains are across the skill distribution

Lesson 1: lotteries don't mean 1 to 1 translation to treatment

- There were “no-shows”: about 16 percent of treatment children did not end up at a HS center
- There were “crossovers”: about 15 percent of control children ended up in HS (presumably a different center than application)
- “Non compliance”

Child Care Settings by Treatment and Control, Head Start year and Age 4 year



Bitler and Hoynes (2015) “Experimental evidence on the distributional effects of Head Start”

Lesson 2: This doesn't mean your experiment is worthless!

- We can use IV to solve this problem
- Endogenous variable – HS participation
- Instrument -- Lottery
- Intent-to-treat
 - “reduced form” “program evaluation
 - basic comparison of T and C
 - the impact of being offered a slot
- Treatment-on-treated
 - “structural equation”
 - The effect of HS using offer as instrument
 - Intuition: TOT is ITT scaled by takeup

First Stage

	Treatment Mean	Control Mean	Difference T-C
<u><i>Head Start in HS Year</i></u>			
Head Start (Administrative report)	0.857	0.153	0.705***
<u><i>Parent Report, Spring 2003</i></u>			
Head Start	0.823	0.146	0.677***
Other Center	0.068	0.252	-0.183***
Family day care	0.014	0.064	-0.050***
Parent/relative	0.094	0.536	-0.442***
Not reported	0.001	0.002	-0.001
<u><i>Parent Report, Spring 2004</i></u>			
Head Start	0.608	0.473	0.135***
Other Center	0.250	0.355	-0.105***
Family day care	0.018	0.015	0.003
Parent/relative	0.077	0.103	-0.025
Kindergarten	0.016	0.021	-0.005
Not reported	0.031	0.033	-0.002

Lesson 3: But the counterfactual is IMPORTANT

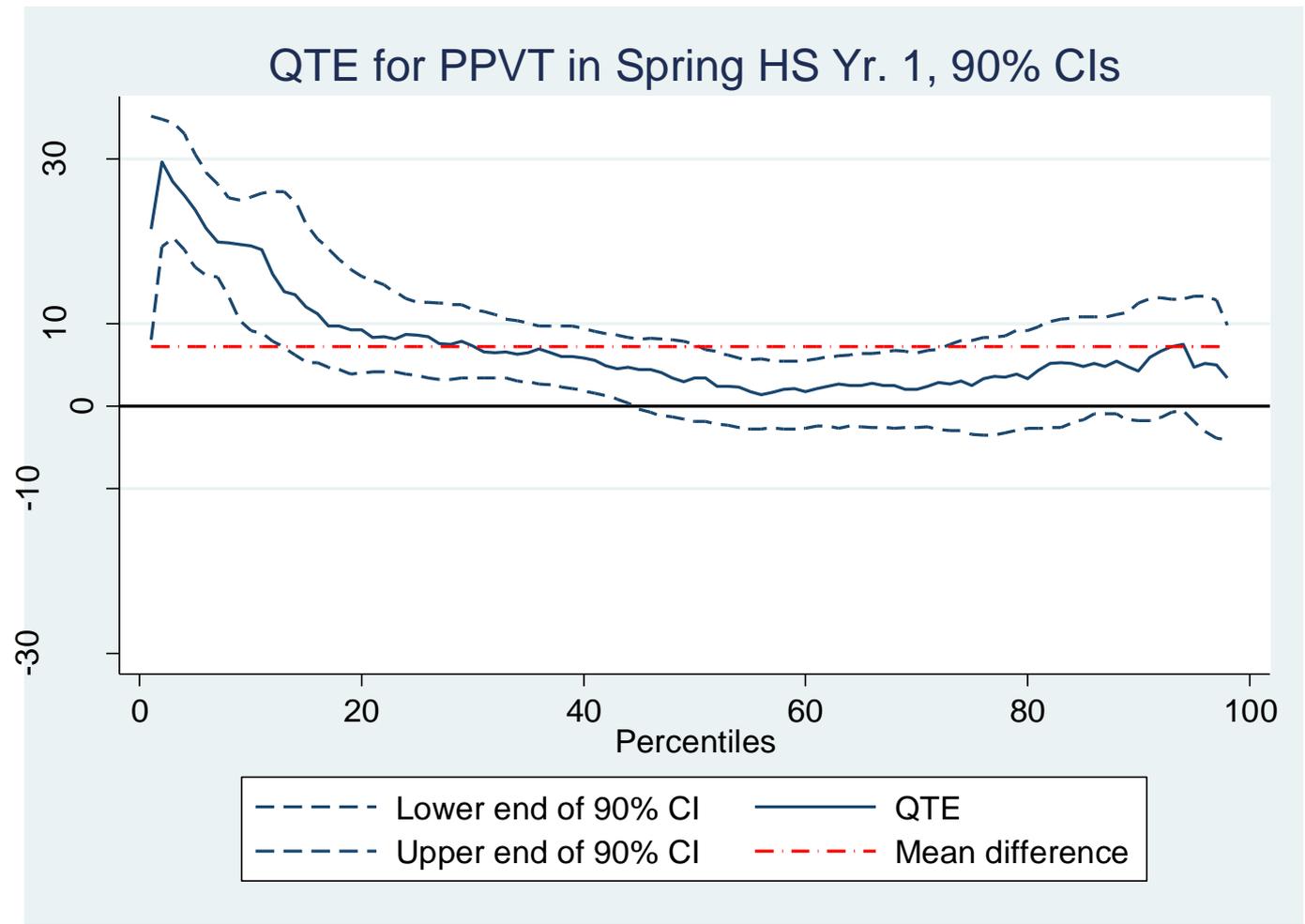
- If in the counterfactual many children are already in some care, then the effects of introducing a new program may not generate large effects on kids outcomes
- It is the “additional treatment” (quantity or quality) that will determine this
- BUT this does not mean that this isn’t still good for families (they get a transfer)
- This holds as a general lesson in introducing programs when there is already a pre-existing market (Medicaid and CHIP are example)
- [This is the point in Casio and Schanzenbach piece and crowdout more generally]

Result: Mean impacts of HSIS on PPVT fade out

	Inverse P-Score Weights			Baseline Child Weights	
	Control mean [SD]	Reduced form (SE)	2SLS (SE)	Control mean [SD]	Reduced form (SE)
<i>PPVT scores</i>					
Baseline PPVT, fall 2002	231 [38]	-0.003 (1.84)		231 [39]	-0.88 (2.25)
PPVT, spring 2003	251 [38]	7.20*** (1.64)	10.20*** (2.40)	252 [37]	6.56*** (2.04)
PPVT, spring 2004	298 [40]	2.89 (1.81)	4.15 (2.60)	299 [41]	2.49 (2.31)
PPVT, spring 2005	339 [29]	0.21 (1.29)	0.30 (1.84)	340 [29]	0.76 (1.49)
PPVT, spring 2006	358 [30]	2.00 (1.42)	2.90 (2.07)	358 [30]	3.05 (1.94)

- No significant difference at baseline (good)
- Gains in preschool year [ITT: 0.2 SD, IV: 0.3 SD or 40% incr.]
- Mean impacts not much affected by inverse propensity score weighting
- Fade-out (positive, not significant) in elementary school

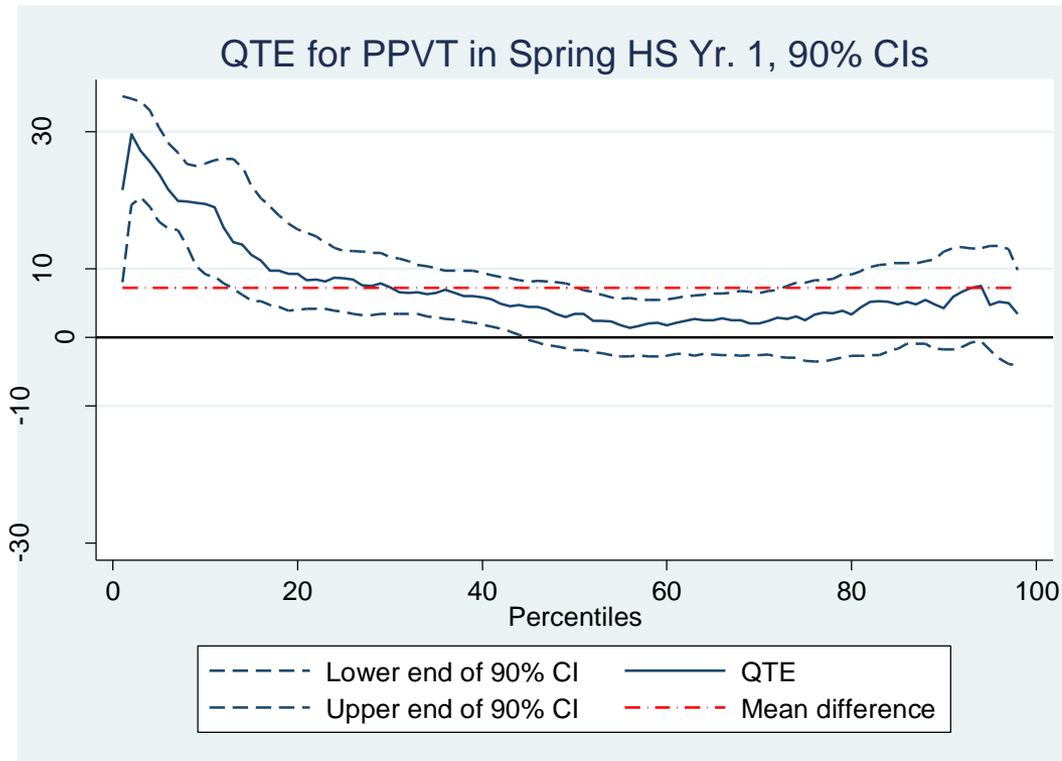
Result: Cognitive gains of HS concentrated at the bottom of the skill distribution



What is a Quantile treatment effect?

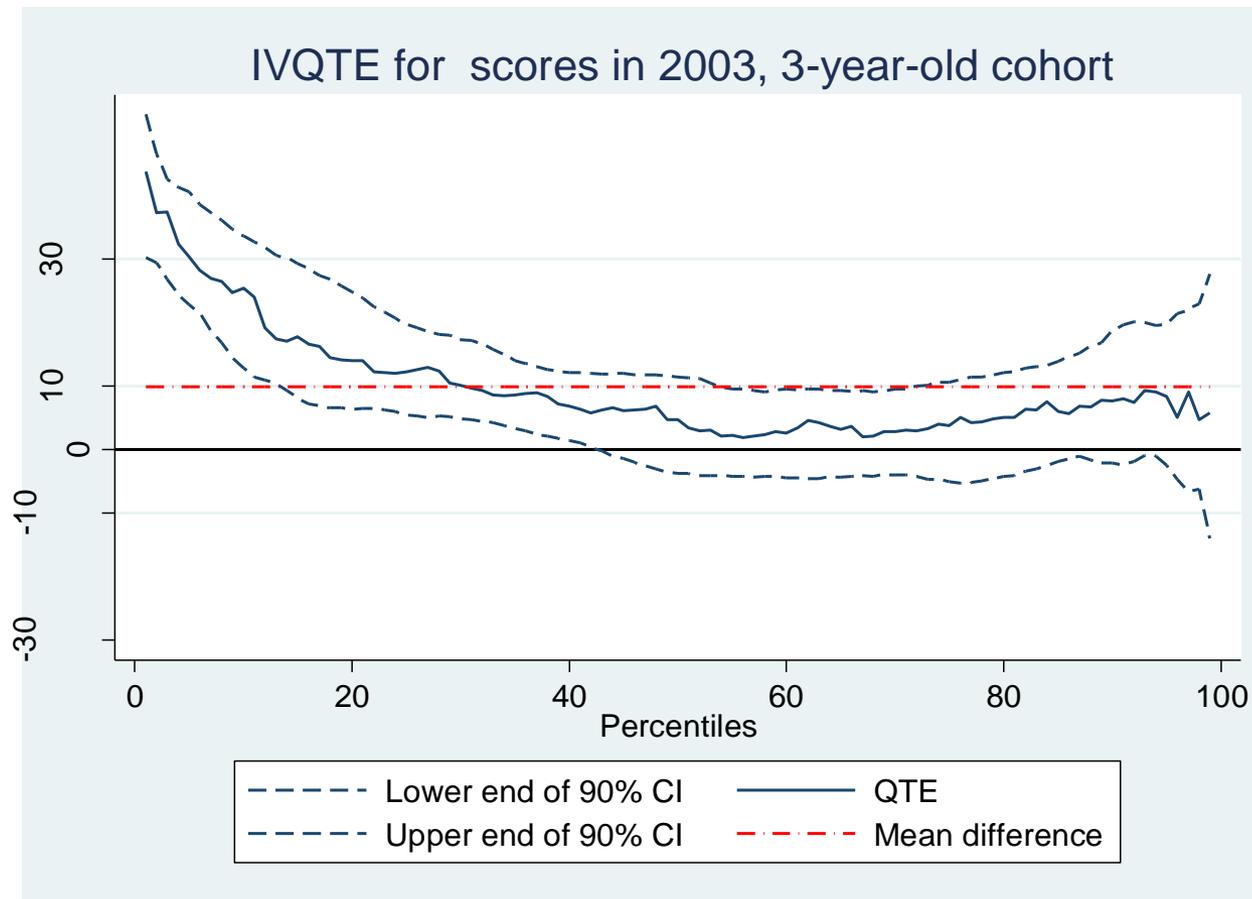
$$\Delta_q = y_q(1) - y_q(0)$$

- $y_q(t)$ = q th quantile of the marginal distributions (of T and C)
- QTE is the difference between quantiles of the T and C distribution
- For example, the QTE at percentile 50 is the difference in medians of the T and C distribution.
- *Interpretation: change in expected value of the outcome at the q th quantile when the offer is made to the control distribution.*
- Given random assignment: the impact of the treatment on the distribution can be estimated without any further assumptions (non-parametric estimator; simple treatment-control comparisons)
- We implement this using inverse propensity score weights



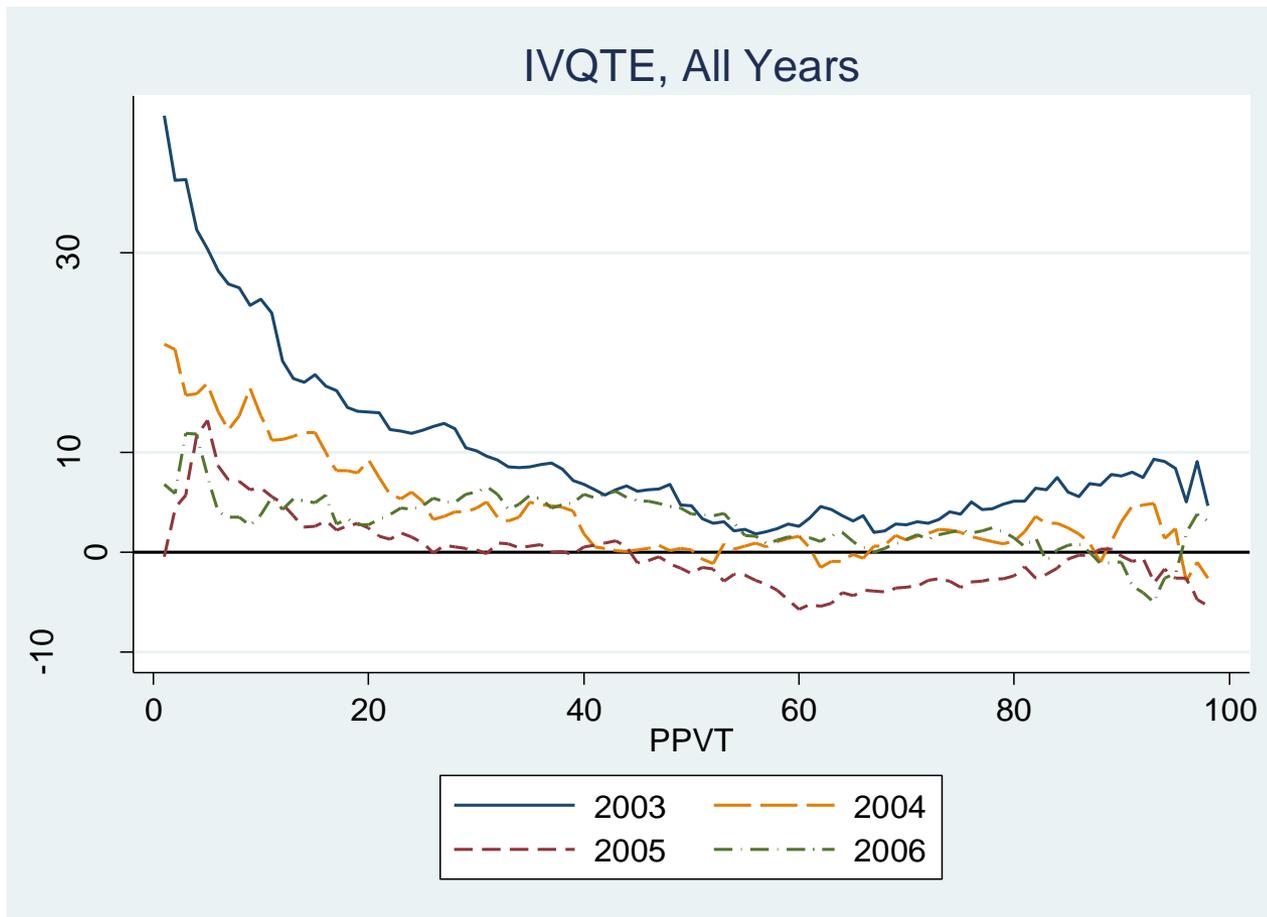
(Reduced Form ITT) QTE for PPVT in end of HS Year

1. Positive cognitive effects across the distribution
2. Gains much larger at the bottom of the distribution
3. Large effects relative to PPVT SD = 38



Even bigger if we show the IV-QTE:

- Similar to QTE but scaled up
- Large effects: in the bottom quintile from 0.32 to 1 SD
- Clear evidence in favor of the compensatory theory



Fadeout is present throughout the distribution

- BUT we find persistent effects for those who enter as limited English speakers

Lesson 4: HS aren't so "small" when compared to Perry and ABC

- Perry found large effects on IQ (0.8 effect size); these are similar to what we found at the bottom of the distribution
 - Notably, Perry targeted very disadvantaged population, IQ 1-2 SD below population mean (Schweinhart & Weikart 1981)
 - Suggest large Perry effects derive from its study population
- Little evidence that the (relatively large) Perry results are due to the difference in the counterfactual care environment.

Lesson 5: It doesn't look like HS long term effects operate through non-cognitive skills

- Testable in HSIS
- Very small effects, little statistical significance, not consistent in sign
- BUT, only had parental assessments for the full sample in preschool. Only have teacher assessments for the whole sample starting in K.

2SLS estimates (parent reports)

Table 7: Two-stage least squares estimates of the effect of attending Head Start on socio-emotional outcomes for spring 2003 and 2006

	<u>Head Start year</u> <u>(Spring 2003)</u>	<u>Grade 1 year</u> <u>(Spring 2006)</u>
<i>Parent reports</i>		
Aggressive (ASPI)	-0.115* (0.068)	-0.084 (0.078)
Hyperactive (ASPI)	-0.274*** (0.074)	-0.111 (0.074)
Lack of Social Competencies (ASPI)	0.022 (0.071)	-0.067 (0.079)
Lack of Social Skills (ASPI)	-0.032 (0.075)	-0.014 (0.076)
Withdrawn (ASPI)	0.027 (0.071)	-0.069 (0.076)
Conflict (Pianta)	-0.012 (0.066)	-0.169** (0.075)
Lack of closeness (Pianta)	-0.121* (0.064)	-0.099 (0.076)
Lack of positive relationship (Pianta)	-0.048 (0.066)	-0.166** (0.078)
Externalizing behavior problems	-0.169** (0.070)	-0.106 (0.072)

We find remarkably little evidence of a treatment effect on non-cognitive skills. [Standardized outcomes, so in SD units.]

2SLS estimates for 1st grade (teacher report, spring 2006)

<u>Teacher reports</u>	
Aggressive (ASPI)	-0.059 (0.085)
Oppositional (ASPI)	-0.009 (0.083)
Inattentive (ASPI)	-0.074 (0.079)
Shy/socially reticent (ASPI)	0.068 (0.079)
Withdrawn/low energy (ASPI)	0.043 (0.081)
Problems with structured learning (ASPI)	-0.021 (0.082)
Problems with interactions (ASPI)	-0.019 (0.077)
Combined ASPI index—negativity	-0.048 (0.074)
Combined ASPI index—shy	0.057 (0.071)
Combined ASPI index—interactive	-0.031 (0.068)
Lack of closeness (Pianta)	0.019 (0.087)
Lack of positive relationship (Pianta)	0.016 (0.089)
Conflict (Pianta)	0.023 (0.088)

Even less for teacher reports (only available beginning in K)

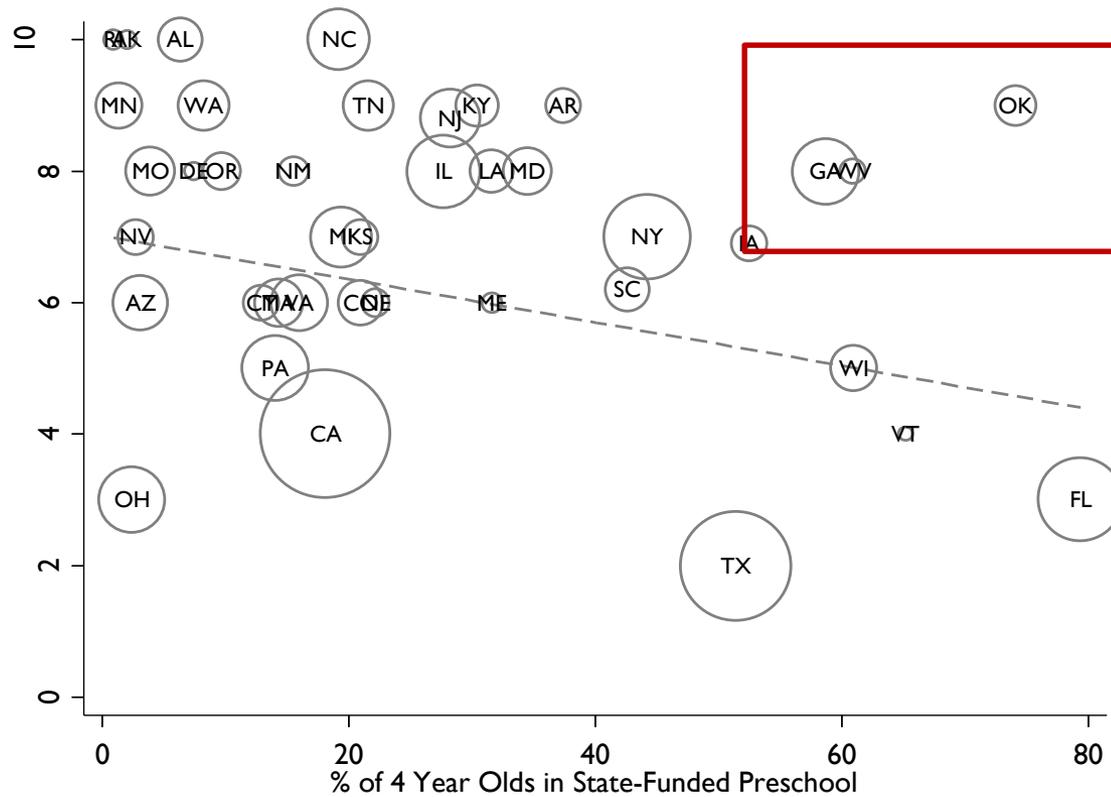
What do we know about what current
State pre-K programs do?

(Cascio and Schanzenbach Brookings
paper)

Cascio & Schanzenbach: The GA and OK Programs

- GA started fall 1995, OK started fall 1998
 - WV and DC much more recent
- Similar quality according to NIEER index, but some differences:
 - GA: ~\$3500/student, state sources only, private centers + public schools
 - OK: ~\$7500/student, shared state & local/fed sources, public schools only
- Existing findings on GA and OK programs limited, mixed
 - ↑ Preschool test scores in OK (Gormley and Gayer 2005; Wong et al. 2008)
 - ↑ 4th grade scores, grade progression rates in GA (Fitzpatrick 2008)
 - No impact on maternal labor supply in GA, OK (Fitzpatrick 2010)

Access & Quality in State-Funded Preschools, 2011-2012



The scope of their project

- What have been the impacts of the GA and OK programs on a broad range of child and family outcomes? Short and medium term
- The outcomes:
 - Preschool enrollment
 - Maternal labor supply
 - Childcare spending
 - Maternal time investments
 - 4th & 8th grade test performance

Data sources

- Preschool enrollment, maternal labor supply
 - October Current Population Survey (CPS), 1977-2011
- Childcare spending
 - Consumer Expenditure Survey (CEX), 1998-2011
- Maternal time investments
 - American Time Use Survey (ATUS), 2003-2011
- 4th and 8th grade test performance
 - National Assessment of Educational Progress (NAEP)

Empirical Strategy

- Difference-in-differences (DD)
 - Compare affected cohorts to unaffected cohorts in GA and OK v. rest of US

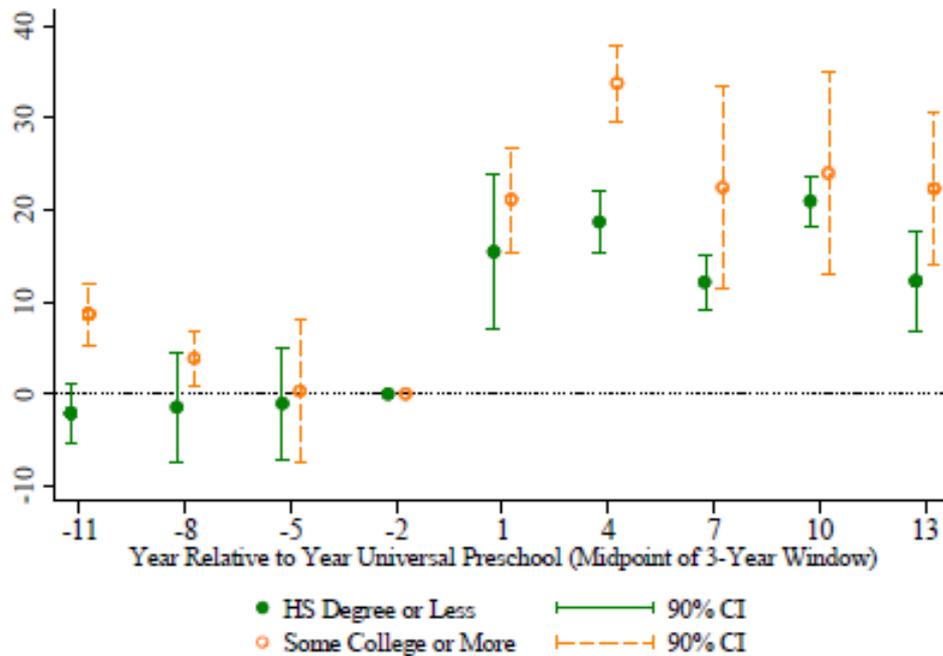
$$y_{st} = \theta post_{st} + \gamma_s + \delta_t + \varepsilon_{st}$$

↑
Preschool enrollment rate in year t
or average test score for cohort t in
state s

↑ ↑ ↑ ↑
=1 if high-quality universal
preschool in state s in year t or for
cohort t , 0 otherwise

State and year fixed effects

Public Preschool Enrollment



Mom has HS
degree or less:

Basic DD w/ controls: 16.99***
(1.34)

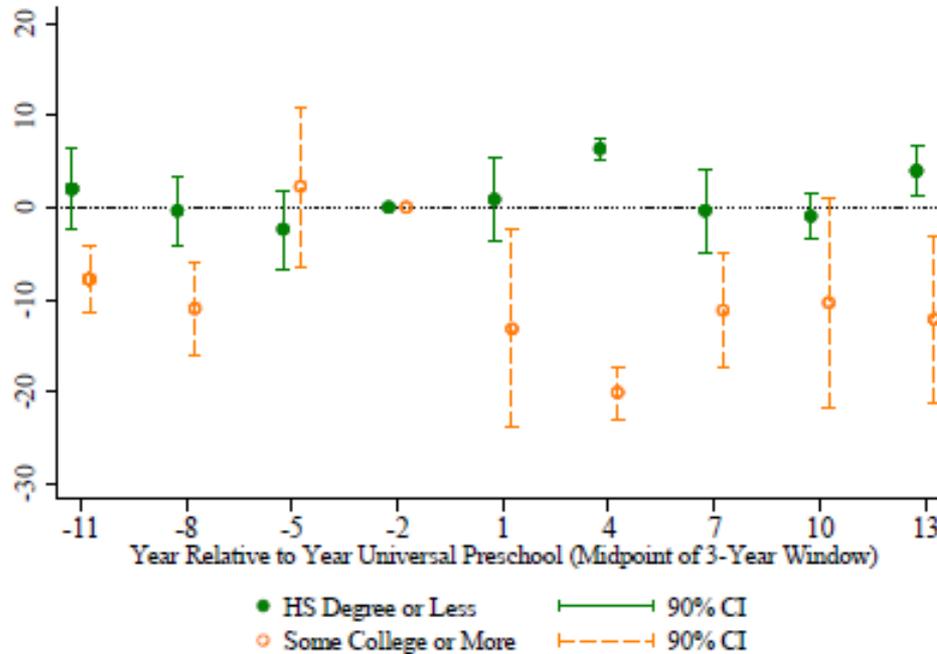
Add state trends: 17.13***
(1.14)

Mom has some
college or more:

Basic DD w/ controls: 19.72***
(3.54)

Add state trends: 28.66***
(2.77)

Private Preschool Enrollment



Mom has HS
degree or less:

Basic DD w/ controls: 1.82 (1.97)

Add state trends: 3.04*** (0.85)

Mom has some
college or more:

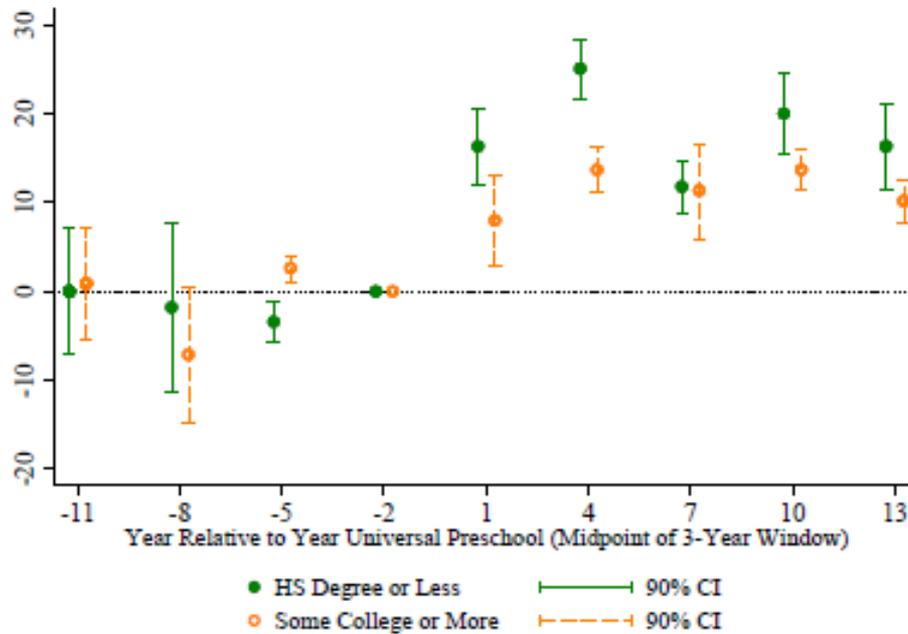
Basic DD w/ controls: -8.04 (6.11)

Add state trends: -14.9*** (3.24)

4 or 5 out of every 10 higher-SES enrollees
would have been in private preschool
CROWDOUT



Any Preschool Enrollment



Mom has HS
degree or less:

Basic DD w/ controls: 18.81***
(2.43)

Add state trends: 20.17***
(1.44)

Mom has some
college or more:

Basic DD w/ controls: 11.67***
(2.76)

Add state trends: 13.77***
(1.13)

Universal preschool programs have larger impacts on preschool enrollment for lower-SES children



Impacts on child care spending

Table 3. Differences-in-Differences Estimates of the Impact of High-Quality Universal Preschool on Monthly Spending on Child Care, by Maternal Education^a

<i>Coefficient on:</i>	<i>Baseline DD</i> 3-1	<i>Topcode Spending</i> 3-2	<i>Use Median Spending</i> 3-3
<i>a. Mother Has High School Degree or Less (N=920)</i>			
Age4 x GA or OK	35.48*** (9.428)	34.94*** (9.415)	-1.723 (4.145)
Age 4	7.747 (5.716)	8.414 (5.703)	0.0475 (3.582)
GA or OK	-31.34*** (5.595)	-30.36*** (5.445)	-9.438 (6.495)
<i>b. Mother Has Some College or More (N=1008)</i>			
Age4 x GA or OK	-65.86*** (21.66)	-49.69** (19.45)	-56.17*** (14.12)
Age 4	70.37*** (14.25)	63.29*** (12.40)	54.39*** (11.57)
GA or OK	-32.30** (12.87)	-31.47*** (10.94)	4.046 (13.90)
Additional Controls:			
Year Fixed Effects	Y	Y	Y

\$3300-\$5600 income transfer to families that switch from private preschool



Impacts on maternal time use

Table 5. Differences-in-Differences Estimates of the Impact of High-Quality Universal Preschool on Mothers' Time Use, by Maternal Education^a

<i>Coefficient on:</i>	<i>Time spent with child present 5-1</i>	<i>Time spent caring for and/or helping child 5-2</i>
<i>a. Mother Has High School Degree or Less (N=96)</i>		
Age4 x GA or OK	-46.18*	24.96**
Age 4	(24.65)	(11.59)
GA or OK	52.74***	16.34***
	(11.80)	(6.693)
	27.95	-15.65
	(41.25)	(10.95)
Constant	477.3***	101.6***
	(12.12)	(5.787)
<i>b. Mother Has Some College or More (N=102)</i>		
Age4 x GA or OK	2.702	-7.703
Age 4	(44.41)	(7.352)
	13.29	13.31***
	(10.50)	(4.867)
	-1.274	-7.849
	(34.52)	(6.122)
Constant	461.8***	121.5***
	(7.781)	(3.408)

significant ↓ in
childcare time
for moms



significant ↑ in
"quality time"



Childcare Spending, Maternal Time

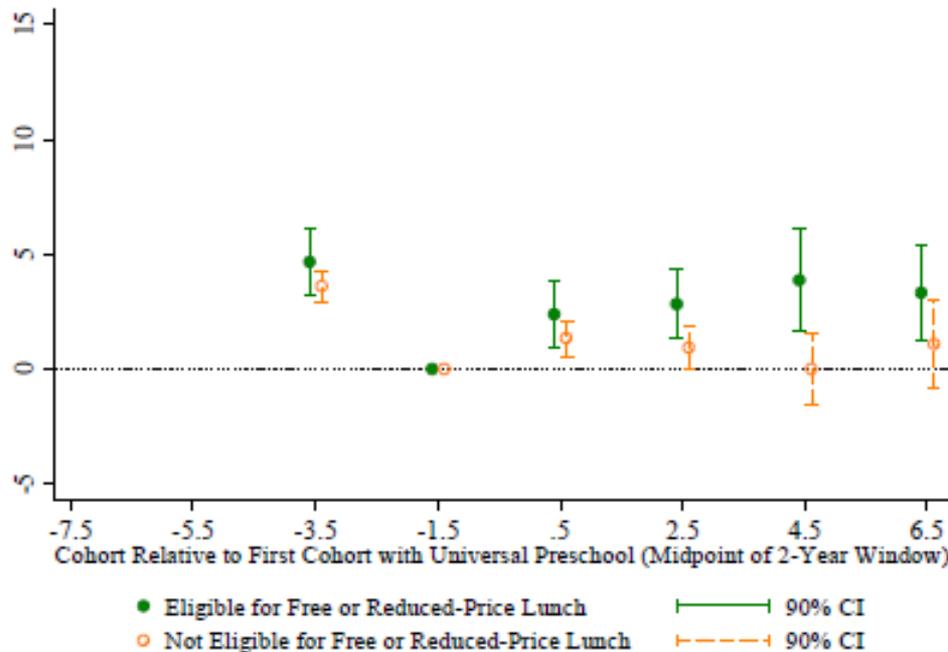
- Estimates align with enrollment findings:
 - Higher-SES families: significant ↓ in childcare spending
 - \$3300-\$5600 income transfer to families that switch from private preschool
 - Lower-SES families: significant ↓ in childcare time for moms
 - Consistent with length of preschool day
- But interesting add'l finding: significant ↑ in “quality time” between mothers & children in lower-SES families
 - Spent reading, playing, talking
- No impact on maternal labor supply

Test score impacts

- Test score “fade-out” problem
 - Well-known in early childhood literature
 - Consistent across Perry, Head Start, TN-STAR kindergarten
 - Impacts diminish, but not usually to zero
- Suggests this may be an under-statement of long-term impacts

4th Grade Math Scores

a. Grade 4 Mathematics



Children in low-income families:

Basic DD: 1.77
(1.79)
+ controls: 3.14*
(1.21)

Children in higher-income families:

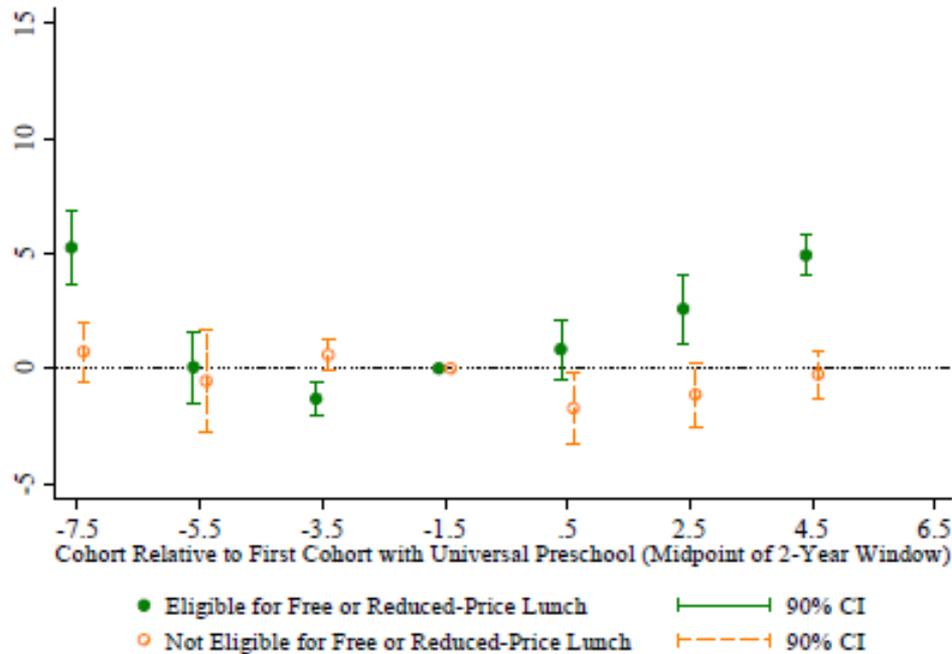
Basic DD: -0.26
(1.13)
+ controls: 0.86
(0.72)

Modest impact of universal preschool programs on 4th grade math scores of low-income children (0.06-0.07 σ).



8th Grade Math Scores

c. Grade 8 Mathematics



Children in low-income families:

Basic DD: 2.15
(1.94)

+ controls: 2.15*
(1.12)

Children in higher-income families:

Basic DD: -1.12
(1.03)

+ controls: -1.29
(0.84)

Modest impact of universal preschool programs on 8th grade math scores of low-income children



Cascio & Schanzenbach GA/OK Analysis

Conclusions

- Effects of the GA and OK programs have varied across the income distribution
 - Lower-SES families: ↑'s in preschool enrollment, “quality time” with mom, 8th grade math scores
 - Higher-SES families: less ↑ in preschool enrollment, but income transfer (from crowd-out), no sig. Δ in 8th grade scores
- Would more targeting be more efficient?
 - ↓ costs
 - But are higher-SES kids in preschool classrooms the key benefit?
- Degree of cost-sharing a challenging issue for state policymakers if “Preschool for All” implemented

Remaining questions

- When do 3 year-olds (or earlier) become a better investment than preschool expansion?
- What is gain from expanding from half- to full-day program?
- Besides academic achievement, what else impacted by preschool?
 - Fade-out of academic impacts
 - Mechanisms may be through non-cognitive, “personality” skills

Health Insurance and Public Policy

PP290

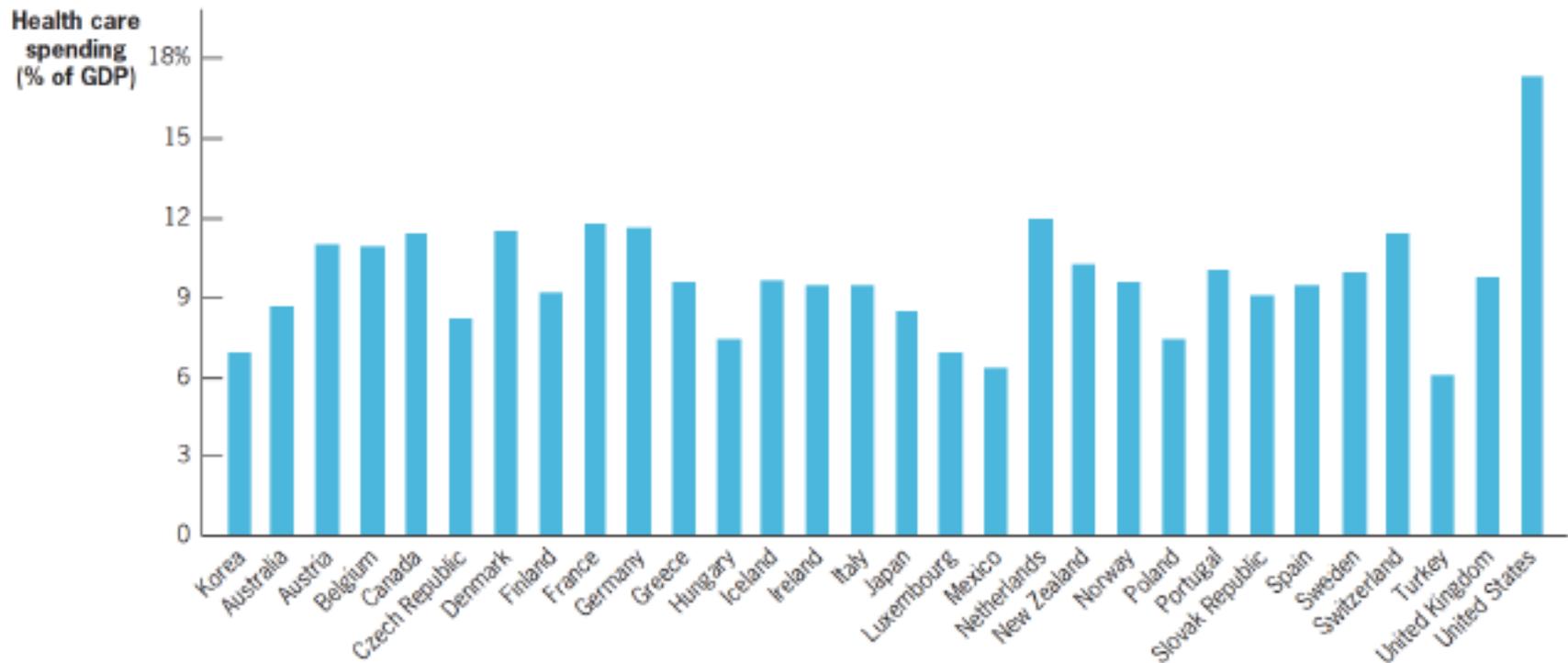
Hilary Hoynes

Motivation

- Concerns with the US health care system: (a) expensive, (b) growing too fast, (c) huge share uninsured
- Enormous disparities in medical outcomes across demographic groups in the US
- Only major industrialized nation that does not endeavor to provide universal access to health care for its citizens
- ACA (and Massachusetts before it) presents major change to public policy on health insurance
- Opportunity to discuss justification for public policy intervention in health insurance, also social insurance more broadly

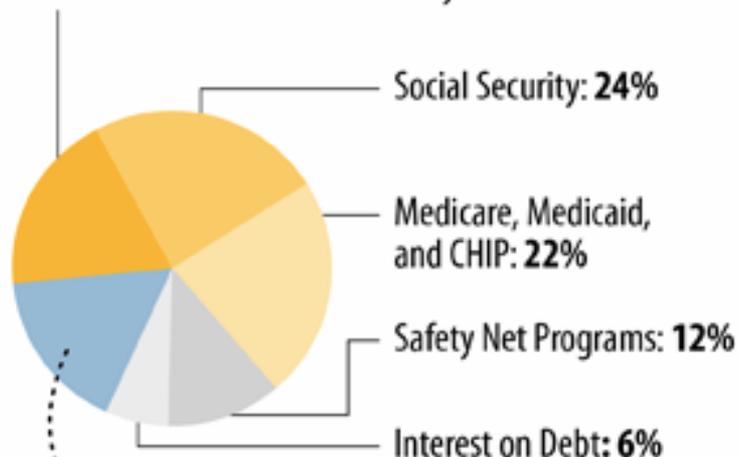
15.1

Healthcare Spending in the OECD Nations

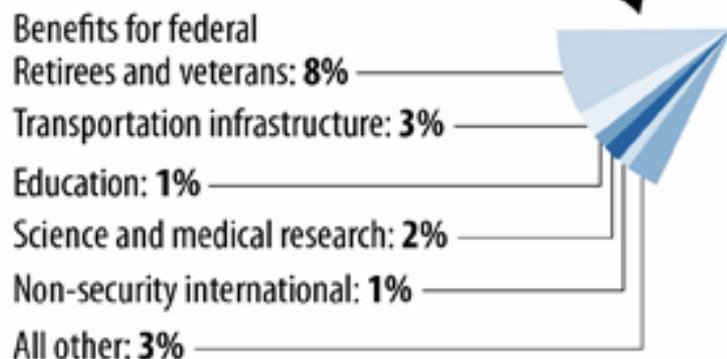


Most of Budget Goes Toward Defense, Social Security, and Major Health Programs

Defense and International Security Assistance: **19%**



Remaining Program Areas



Source: 2013 figures from Office of Management and Budget, FY 2015 Historical Tables.

Outline

- Facts on US health spending and public insurance
- Justification for government policies in this area
- Lessons from research on effects of health insurance
 - Medicaid (including Oregon experiment)
 - Medicare
- The uninsured on the eve of the ACA
- The ACA and early evidence

(1) Why is the government involved in the health insurance?

- Krugman NYT Healthcare 101: “we rely on free markets to deliver most goods and services, so why shouldn't we do the same thing for health care?”

But first, what is insurance and what is the value of it?

- Protection against an adverse outcome
 - Pay premium; insurer promises to make payment; payment is triggered by some event
- Examples:
 - Auto insurance
 - Home insurance
 - Life insurance
 - Health insurance
- Why do we value insurance?
 - Want to smooth consumption across possible outcomes (“states of the world”)

- So then the next logical question is why SOCIAL insurance (rather than private insurance)?

Justification 1: Market Failure

- Private market will not provide “socially desired” level of insurance
- First you need risk (of getting hit with health shock)
- Second, you need “information asymmetry” individuals know more about their risk than health insurers
- Adverse selection: those with the highest valuation for the insurance will take it → prices for insurance increase → more selection in → so on

How can govt address adverse selection?

- Require everyone to purchase insurance
- Direct government provision of health insurance

Other justifications for govt involvement

- Redistribution/Equity/social justice (Medicaid)
- Externalities (of uninsurance)
- Lower administrative costs
 - Medicare 1.44% administrative costs
 - Private insurance, up to 15%
- Market power as buyer (not currently exercised much)

Why care about uninsurance?

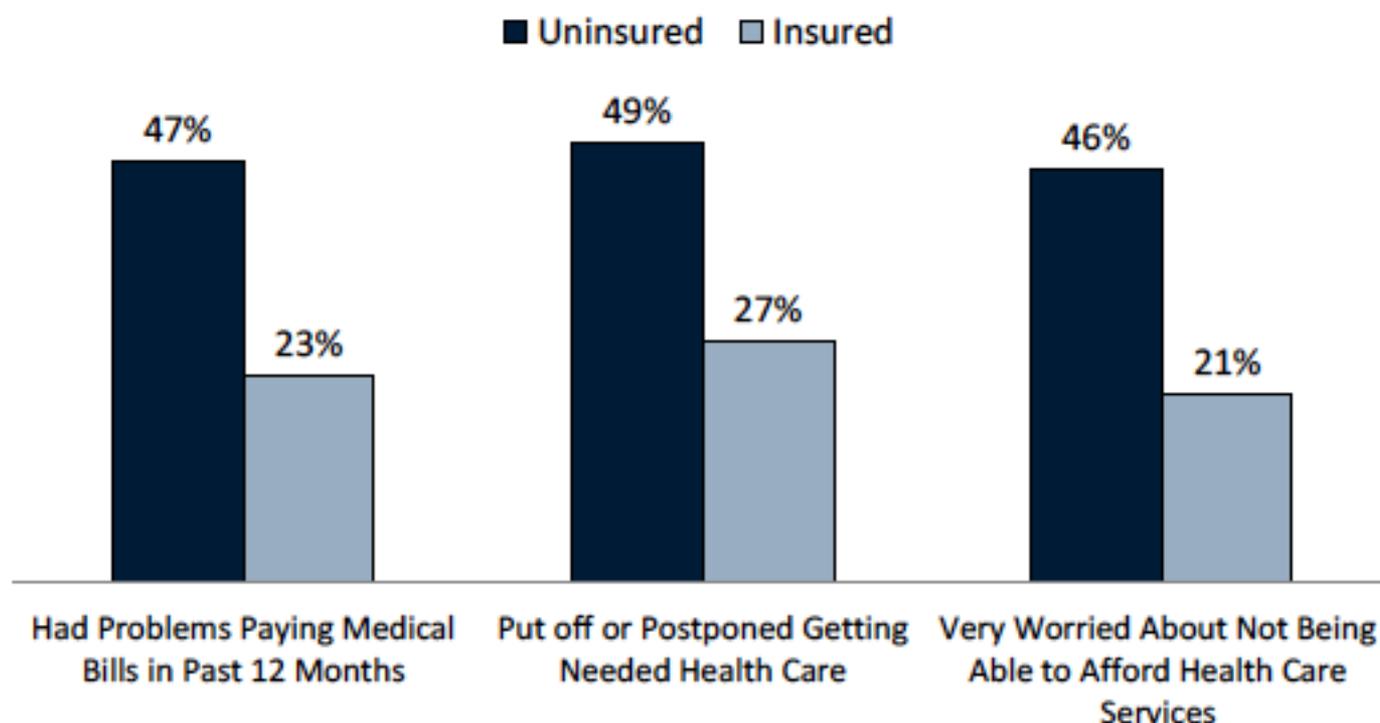
- There are equity motivations for caring about the uninsured
- Becoming uninsured is a concern/risk for millions of individuals who currently have insurance.
- Health insurance availability may inhibit productivity-increasing job switches (job lock): you do not want to quit a job offering health insurance
- Care is not delivered appropriately to the uninsured.
- There is a significant financial externality imposed by the uninsured on the insured.
- There are physical externalities associated with communicable diseases.

Protection vs Distortion

- Always balancing these features in social programs (including insurance)
- Protection – Financial and health implications of adverse health shock
- Distortion?
 - Take less actions to stay healthy
 - “excess” consumption of health care (consumers)
 - Providers provide “too much” care (because consumer does not face full resource cost)
 - ACA discussion of distortions due to new taxes and benefits

Financial Consequences of Medical Bills by Insurance Status, 2012

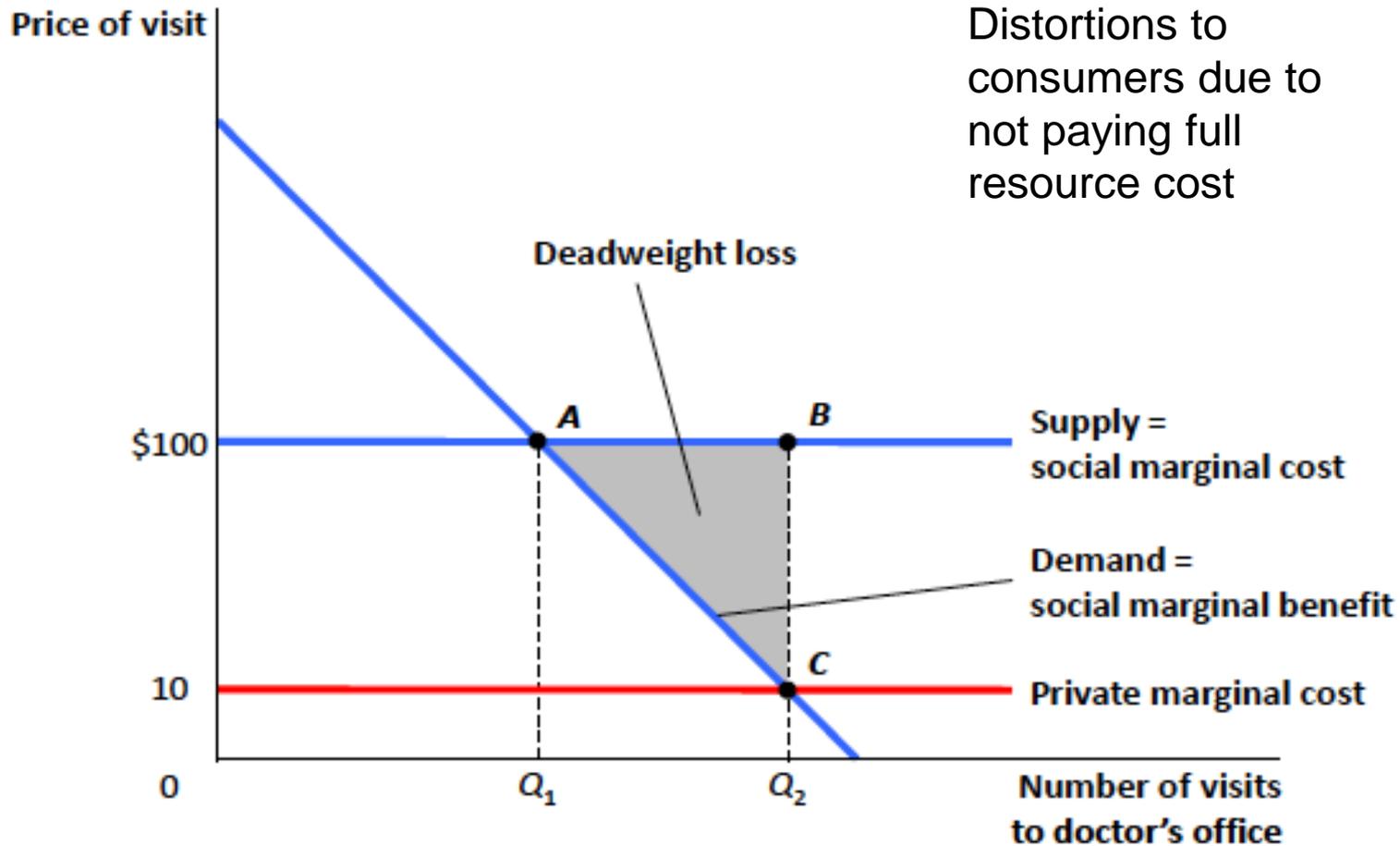
Percent of adults responding (age 18-64) reporting in the past 12 months:



All differences between insured and insurance groups are statistically significant ($p < 0.05$).

SOURCE: Kaiser Family Foundation's Health Tracking Poll: June 2012

Moral Hazard Costs of Health Insurance for Patients



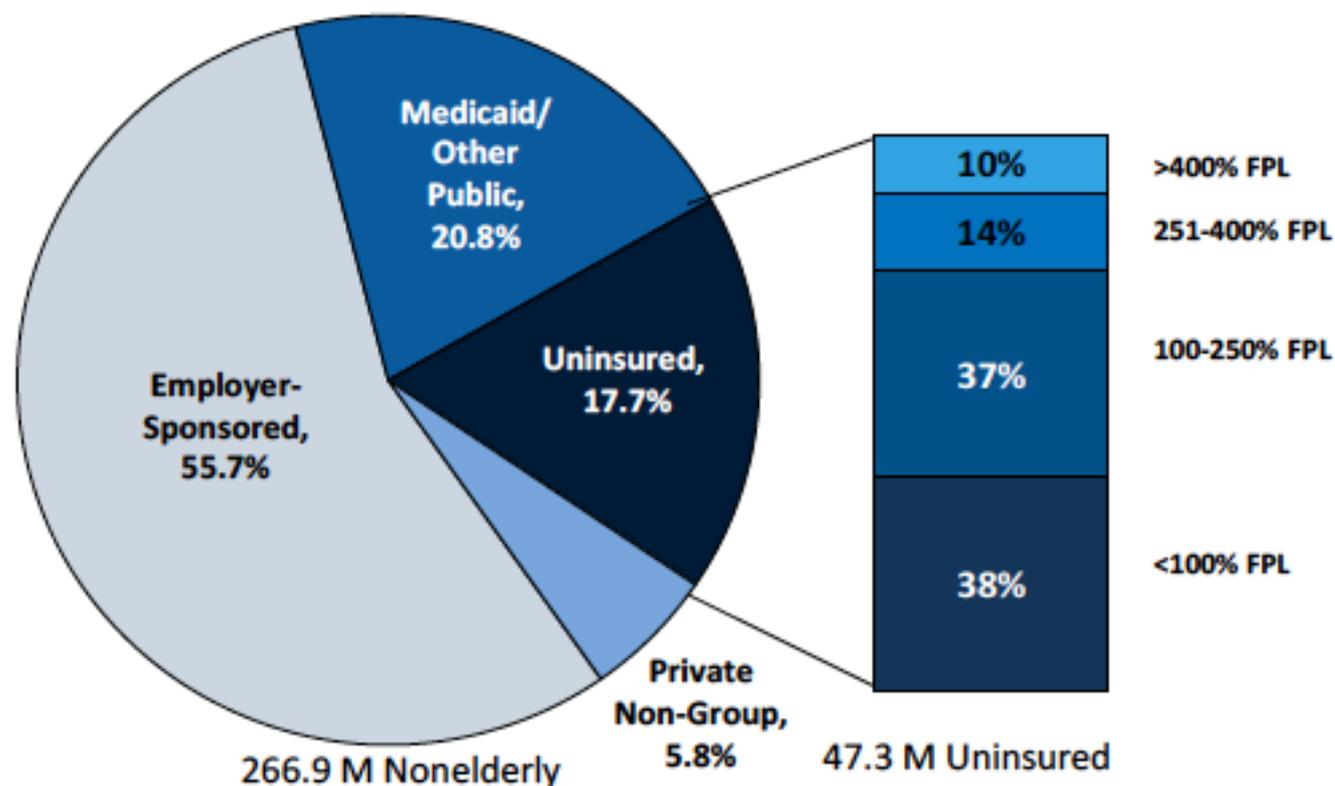
(2) What does the U.S. do?

U.S. Health Insurance

- Mix of public and private insurance
- 1) Government provided insurance
 - Medicare for the elderly (65+)
 - Medicaid (and CHIP) for low income (children, disabled, elderly, some nonelderly adults)
 - Veterans benefits
- 2) Privately provided insurance:
 - Employer provided health insurance (large)
 - Direct private purchase (small)
 - Obamacare exchanges
- 3) Uninsured: (1/6) of population (before Obamacare)

Figure 1

The Uninsured Population—As a Share of the Nonelderly Population and by Poverty Levels, 2012

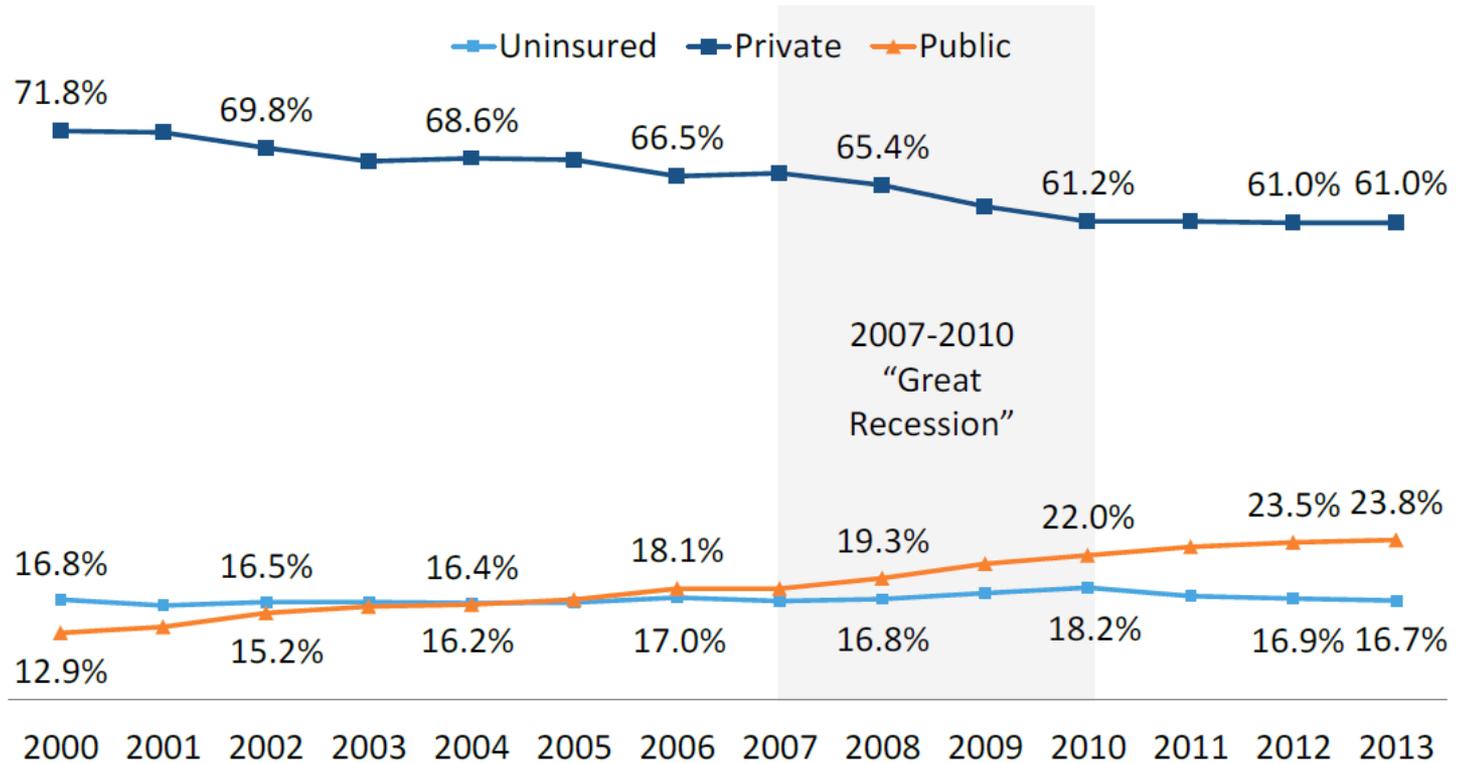


Medicaid and other public coverage includes: CHIP, other state programs, Medicare and military related coverage. The federal poverty level for a family of four in 2012 was \$23,050.

SOURCE: KCMU/Urban Institute analysis of the 2013 ASEC supplement to the CPS.

Figure 1

Coverage Changes Among the Nonelderly, 2000-2013



SOURCE: KCMU Analysis of 2001-2014 National Health Interview Surveys

What do other countries do?

- All OECD countries (except the US) provide universal health care insurance funded by taxation:
- Individuals who get sick can have health care paid for by the government
- Government either directly controls doctors/hospitals (e.g. UK) or government reimburses private health care providers (e.g. France)
- Government controls costs through:
 - 1) Regulation (govt picks allowed treatments based on cost effectiveness, bargains for prices, rations care)
 - 2) Patient co-payments (patients share part of the cost)

Medicare

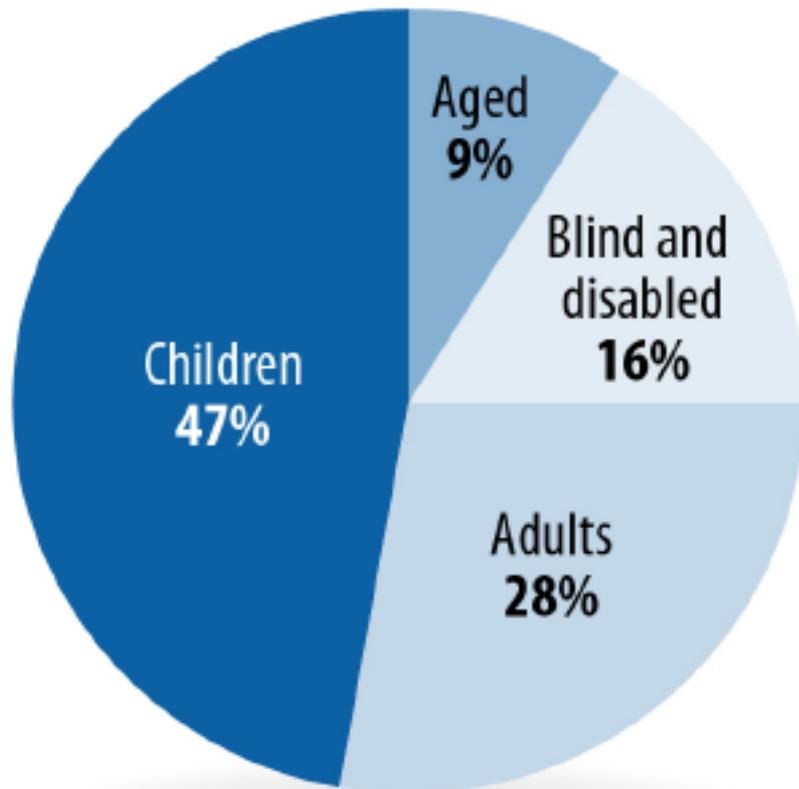
- Started in 1965 as a universal health insurance system
- Federal program that provides health insurance to all people over age 65 and disabled
- Every citizen who has worked for 10 years (or their spouse) is eligible.
- Financed with an uncapped payroll tax totaling 2.9%; this funds about 50% of Medicare expenses, remainder is funded with general funds
- Physician reimbursement fairly generous (but not as high as private insurance)

Medicaid

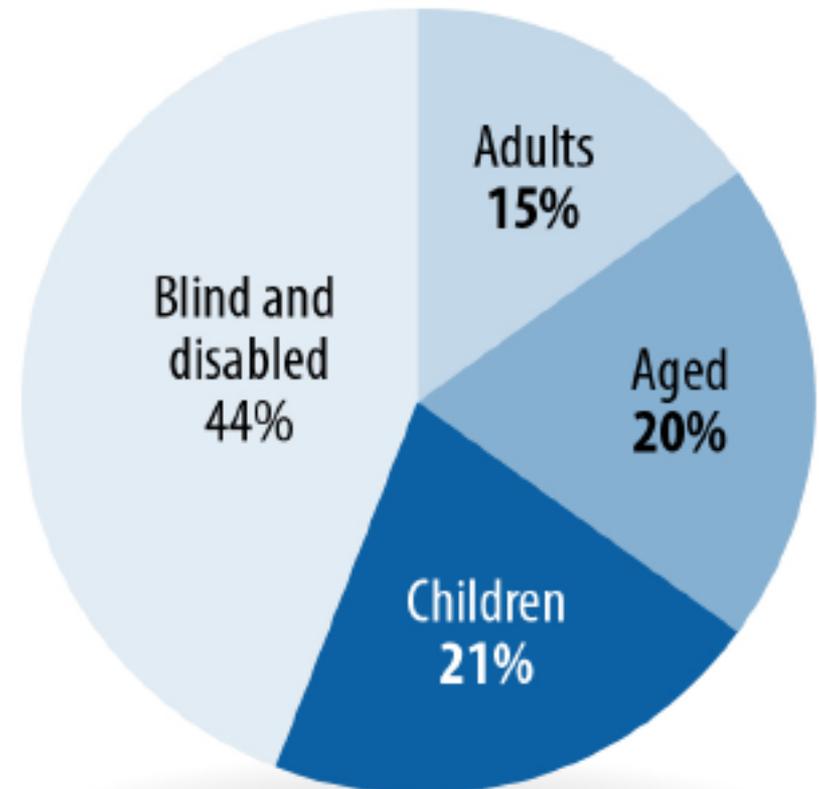
- Provides health care for low income (means-tested)
- Financed from general revenues (federal/state)
- Targets low income kids, SSI or TANF recipients, and elderly (for non-Medicare costs such as long-term care)
- 70% of recipients are mothers/kids but 66% of expenditure goes to long-term care for elderly.
- Doctor reimbursement low → some docs refuse Medicaid
- Big variation across states in Medicaid generosity
- Program eligibility criteria have been expanded over time (higher incomes allowed): Obamacare substantially expands Medicaid to reduce uninsured (but not all states will do it)

Enrollment and Spending in Medicaid

Medicaid enrollment



Medicaid spending



Source: Spending estimates for FY2012 from the Congressional Budget Office's February 2013 Medicaid Baseline.

Table 2**Features of Medicaid and Medicare**

	Medicaid	Medicare
Eligibles	Families on welfare Low-income children, pregnant women Low-income elderly, disabled	Retirees and spouses 65+ Certain disabled individuals People with kidney failure
Premiums	None	Hospital coverage: None Physician coverage: \$66.60/mo
Deductibles/ copayments	None (or very small)	Hospital coverage: \$876 deductible for first 60 days Physician coverage: \$100 deductible, 20% coinsurance
Services excluded	None (or very minor)	Prescription drugs (at least until 2006) Routine checkups, dental care, nursing home care, eyeglasses, hearing aids, immunization shots
Provider reimbursement	Very low	Moderate (but falling)

Employer provided health insurance

- Way to pool risk across broader group (rather than purchasing individual insurance)
- The goal of all insurers is to create large insurance pools with a predictable distribution of medical risk.
- The law of large numbers helps achieve this goal.
- By pooling all employees, employer-provided health insurance also avoids adverse selection.
- AND major tax advantage for employer provided health insurance
 - earnings are taxed but employer payments for health insurance are untaxed → tax expenditure associated with this

Estimated Cost of Major Individual Tax Expenditures
Billions of Dollars

Tax Expenditure	FY 2014	FY 2015	FY 2016	FY 2017
Exclusion of Employer-Sponsored Health Insurance	143	153	162	171
Exclusion of Net Pension Contributions and Earnings	109	120	135	147
Preferential Tax Rates on Capital Gains and Dividends	91	115	121	129
Deduction of Mortgage Interest	72	75	79	83
Earned Income Tax Credit (EITC)	67	67	66	65
Child Tax Credit	58	58	59	59
Deduction of State and Local Taxes	52	55	59	62
Exclusion of Capital Gains on Assets Transferred at Death	48	52	56	60
Deduction of Charitable Contributions (other than education and health)	35	36	37	39
Exclusion of Untaxed Social Security Benefits	34	36	37	39

Source: Joint Committee on Taxation, February 2013

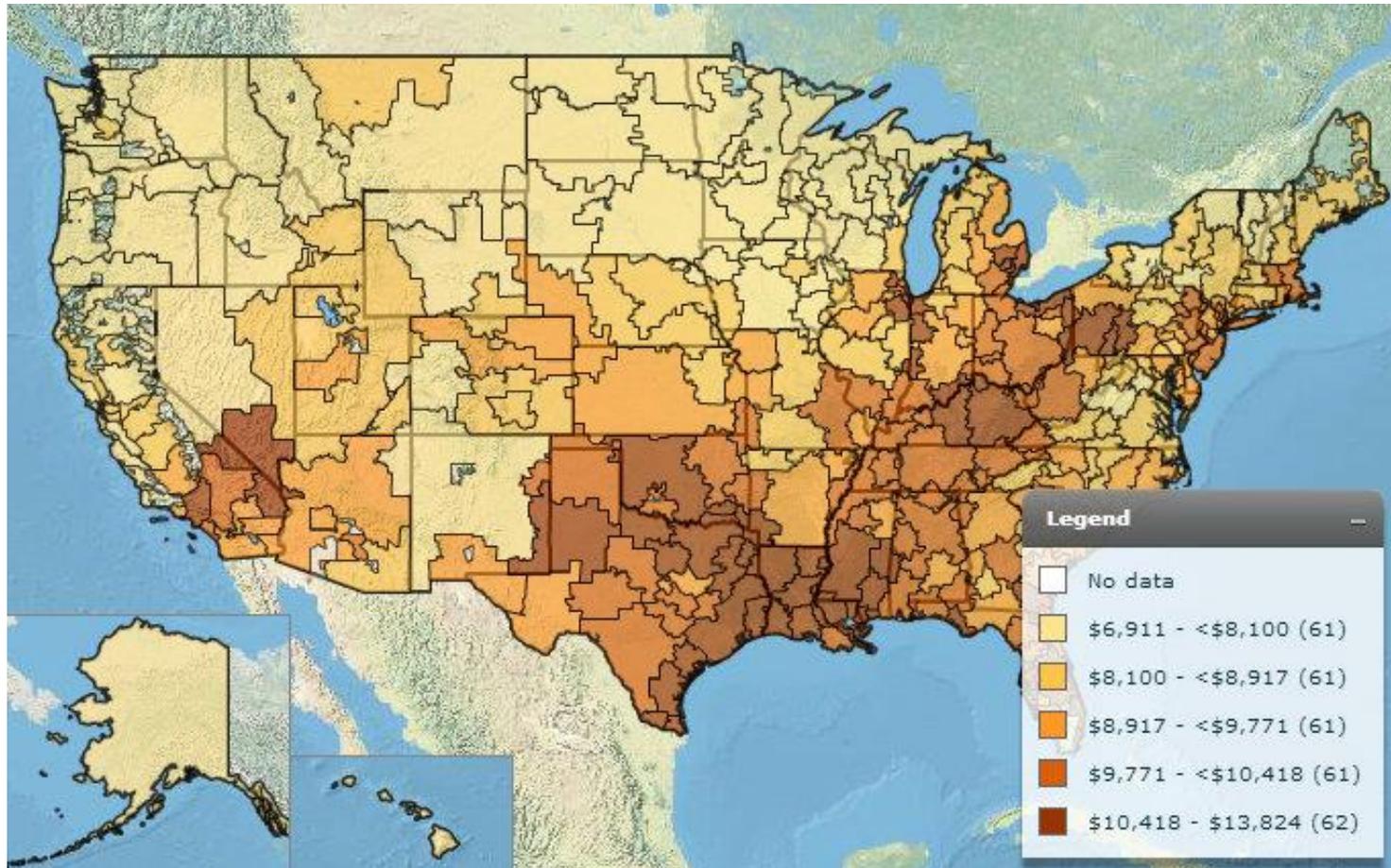
The Other Alternative: Nongroup Insurance

- The nongroup insurance market is not a well-functioning market.
- Nongroup insurance is not always available.
- Those in the worst health are often unable to obtain coverage (or obtain it only at an incredibly high price).
- ACA Marketplaces revolutionize the nongroup insurance market.
 - Individuals able to buy health insurance through Marketplaces that pool their risk with others.
 - Attempts to mitigate adverse selection (e.g. through mandate)

(3) Problems with US Health Care System

- Spend a lot
- Huge variation across areas
- Overuse of care (for some)?
- Huge inequities in access and outcomes – already covered during the course
- Uninsured

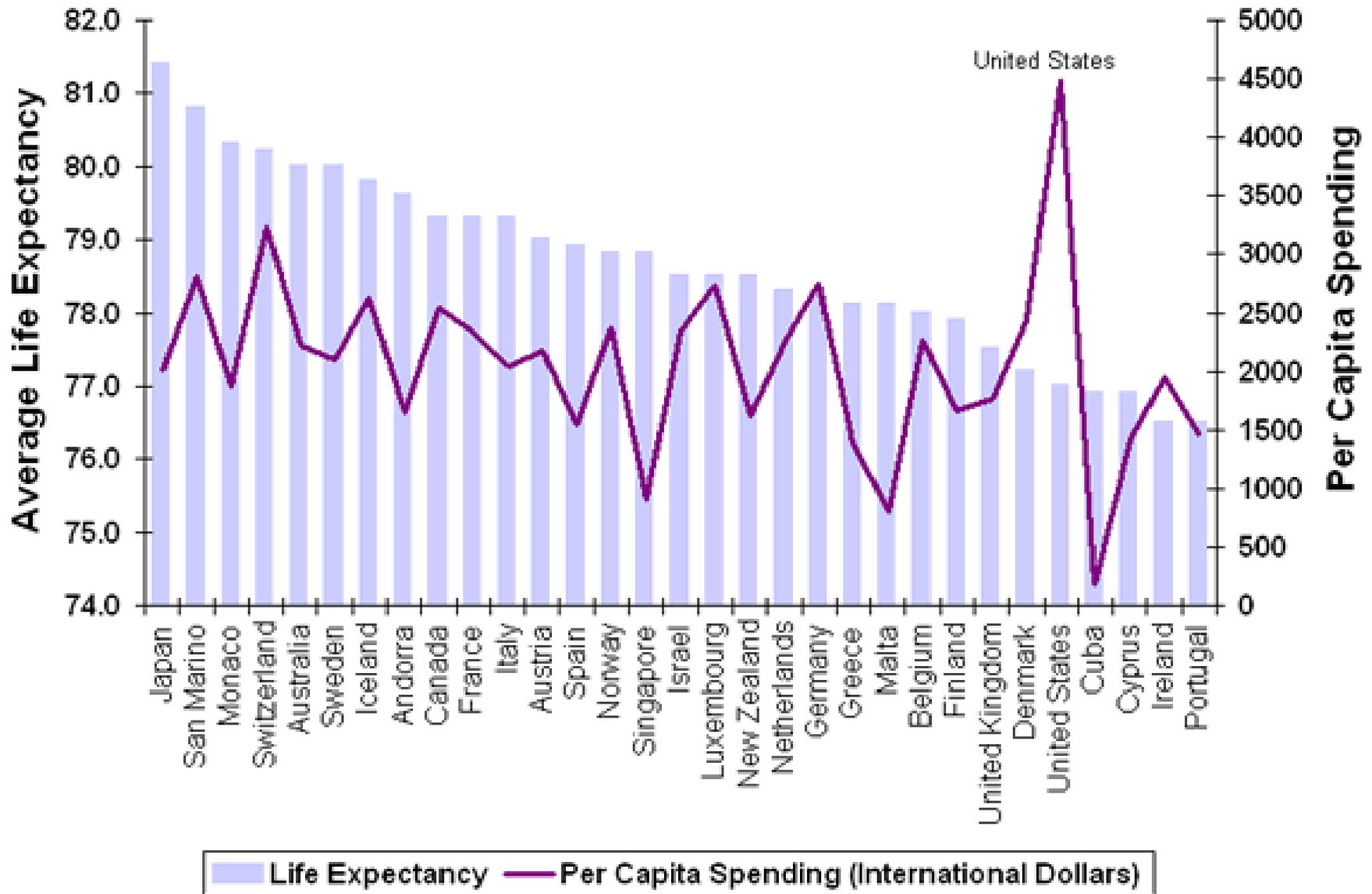
TOTAL MEDICARE REIMBURSEMENTS PER ENROLLEE (Adjustment Type: Price, Age, Sex & Race; Year: 2010)



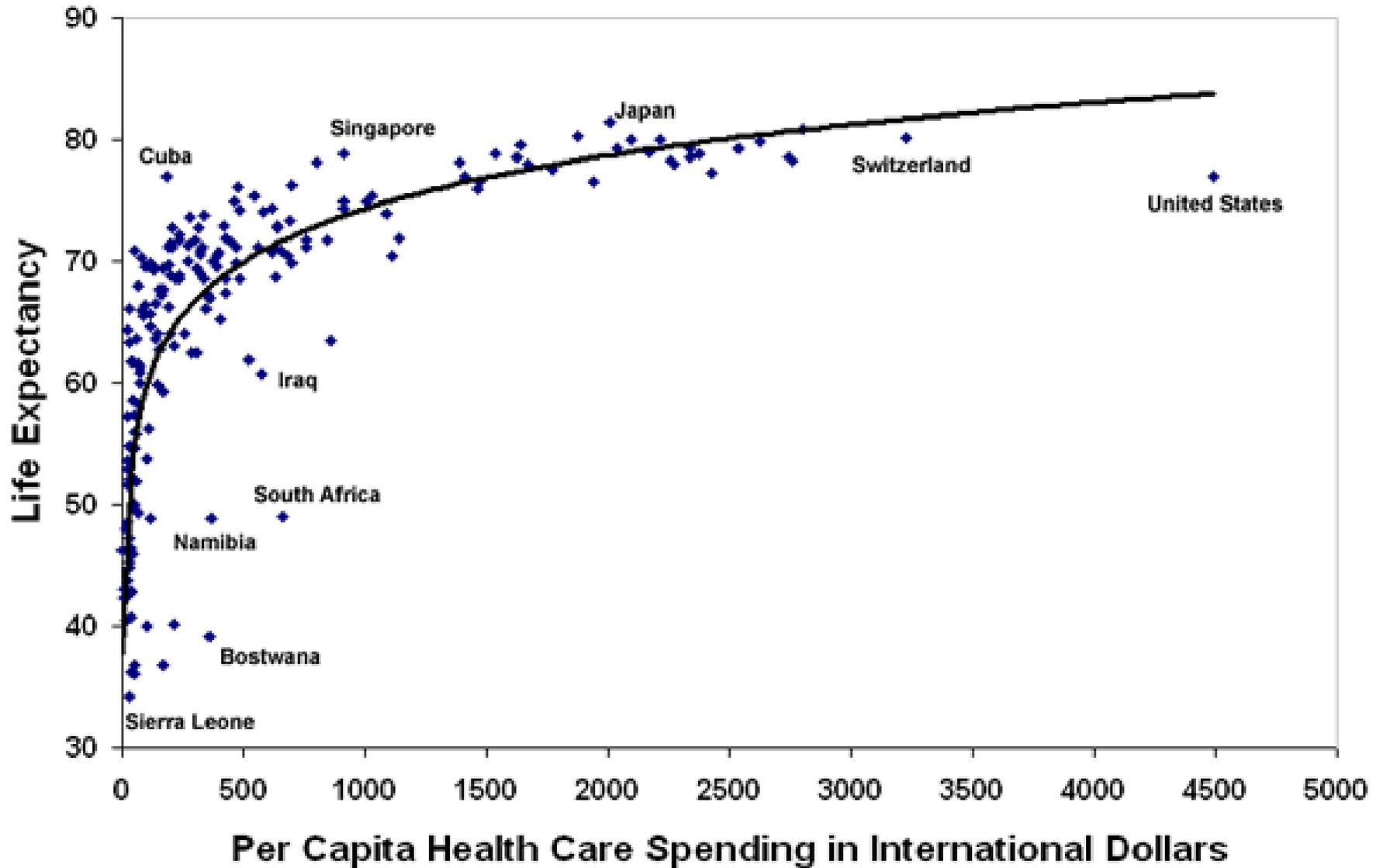
Case Study: McAllen County TX (Atul Gawande New Yorker)

- 2nd most expensive health care market in the U.S.
<http://www.dartmouthatlas.org/data/topic/topic.aspx?cat=21>
- \$15,000 per Medicare enrollee; twice the national average and > per capita income of residents!
- Gawande uncovers a fairly healthy population but with MUCH more utilization of services

The Cost of a Long Life



Life Expectancy vs. Spending



(4) A Brief Summary of Research on the Impacts of Health Insurance

- Why do we need experiments or quasi-experiments? As usual, participation is not exogenous, selection into who has insurance
- The evidence:
 - Medicare: regression discontinuity at age 65, program rollout (1965)
 - Medicaid: expansions for children and pregnant mothers (we already talked about this)
 - Medicaid: Oregon Experiment
 - ACA: early evidence
 - [Massachusetts: difference in difference evidence]

A. The Oregon Medicaid Health Insurance Experiment

- The first use of a randomized controlled design to evaluate the impact of Medicaid in the United States
- In 2008, Oregon wanted to expand its Medicaid program to cover more adults (financially / income eligible, but not categorically eligible for Medicaid)
- They had a limited budget and used a lottery to select who would receive the Medicaid insurance coverage
 - 90,000 signed up for this new insurance
 - Had budget to enroll 10,000
- 30,000 lottery winners (treatment group)
- 55,000 lottery losers (control group)
- Lottery winners → won ability to apply for Medicaid (needed 30K to get 10K enrolled, did not know eligible ex ante)

Oregon Medicaid Health Insurance Experiment (cont)

- From January 28 to February 29, 2008, anyone could be added to the lottery list by telephone, by fax, in person sign-up, by mail, or online.
- The state conducted an extensive public awareness campaign about the lottery opportunity.
- To keep barriers to sign-up low, the sign-up form requested limited demographic information on the individual and any interested household member, and no attempt was made to verify the information or screen for program eligibility at sign-up for the lottery.
- Eligibility: 19–64, Oregon residents, U.S. citizens or legal immigrants, without health insurance for at least six months, incomes below poverty, less than \$2,000 in assets

What do we expect to find?

- Uninsured decreased (first stage!)
- Costs:
 - Utilization/Access: increased health care utilization (moral hazard, natural property of demand curve!) → costs increase
 - More preventative care, less ER → decrease costs?
- Benefits
 - Improved health
 - Improved financial security (insurance!)
 - Increase employment and earnings (due to health and financial security) or decrease (due to work disincentive to keep eligibility)

Importance of context

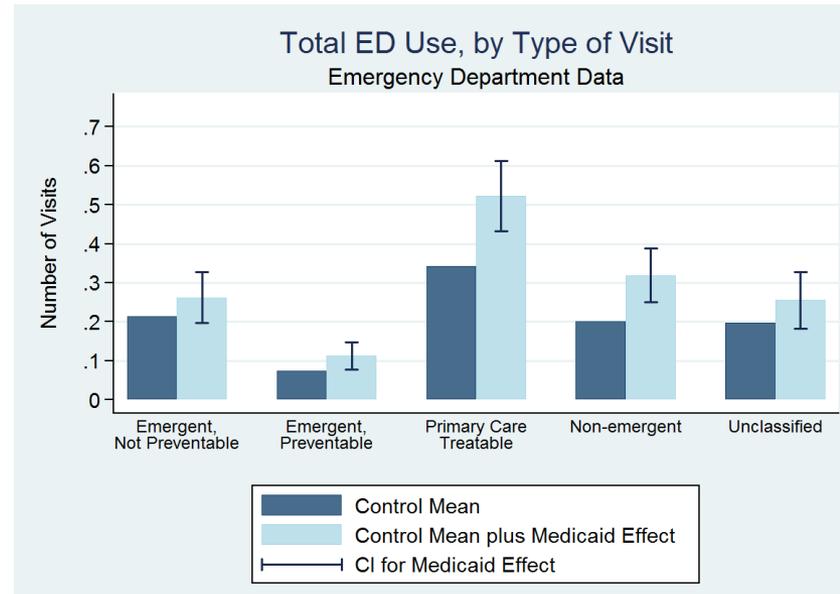
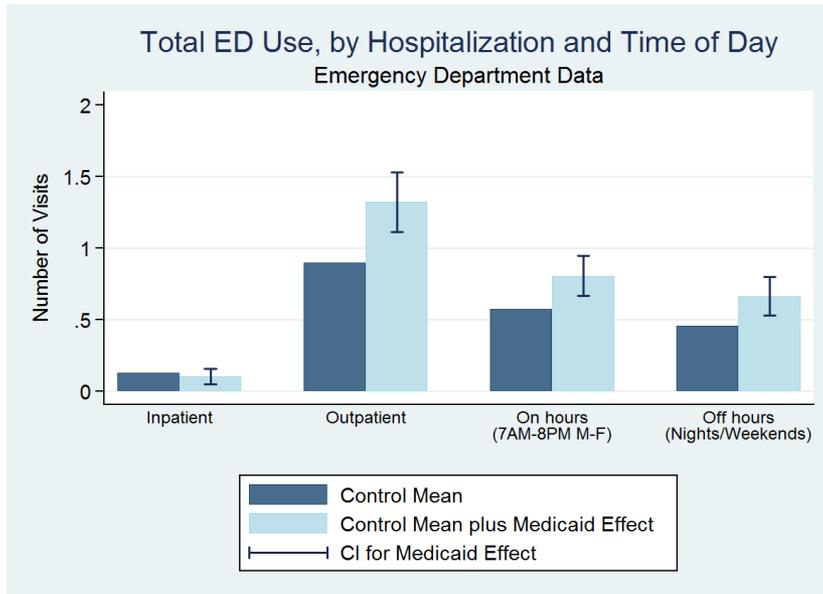
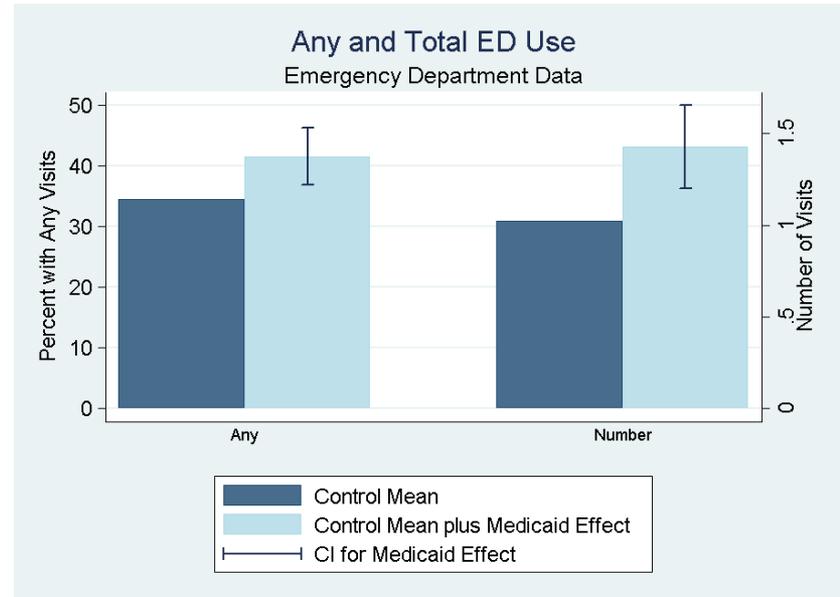
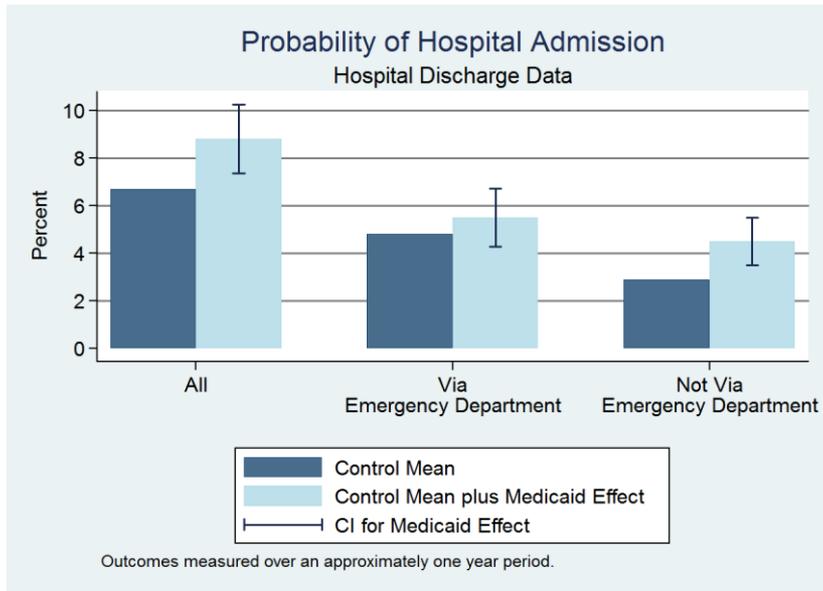
- Effects of Medicaid may be smaller than general insurance effects
- Social safety net (uncompensated care, public clinics) already providing some coverage
- Low reimbursement rate means limited access, wait times
- But, may be on steep portion of health production frontier
- Can only examine effects over 2 years (not long run)

Data and Design

- Administrative: hospital, credit reports, earnings
- Mail surveys (25K respondents)
- In person interviews (12K respondents)
- Lottery experiment
 - Intent to treat: compare those selected and those not selected → effect of expanding access to Medicaid
 - TOT/IV: use lottery receipt as instrument for Medicaid coverage → effect of Medicaid coverage

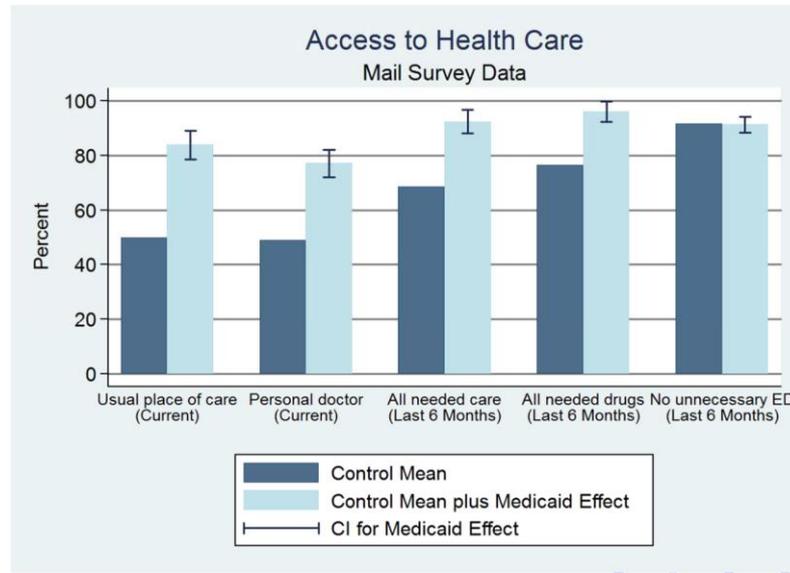
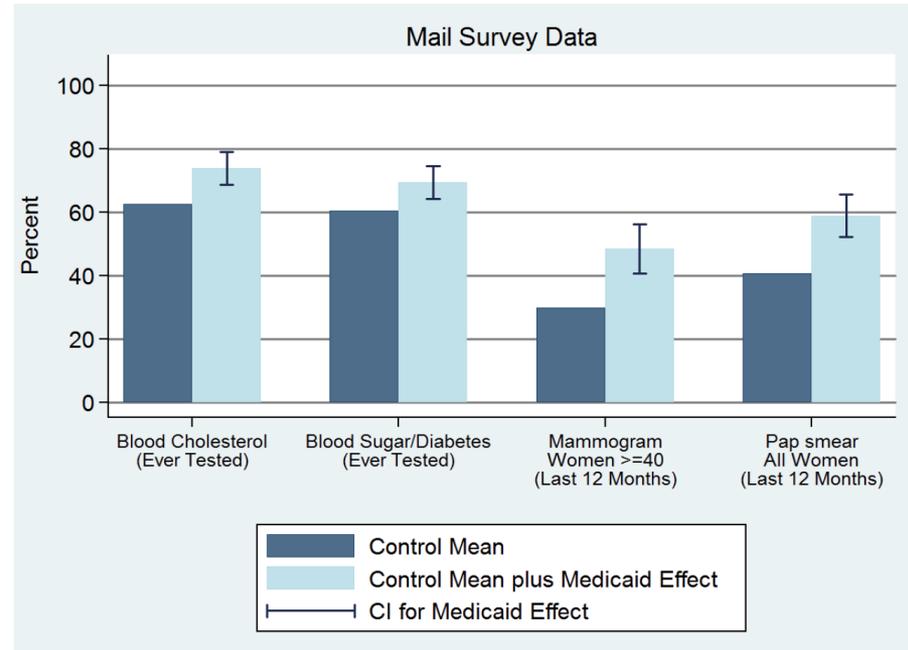
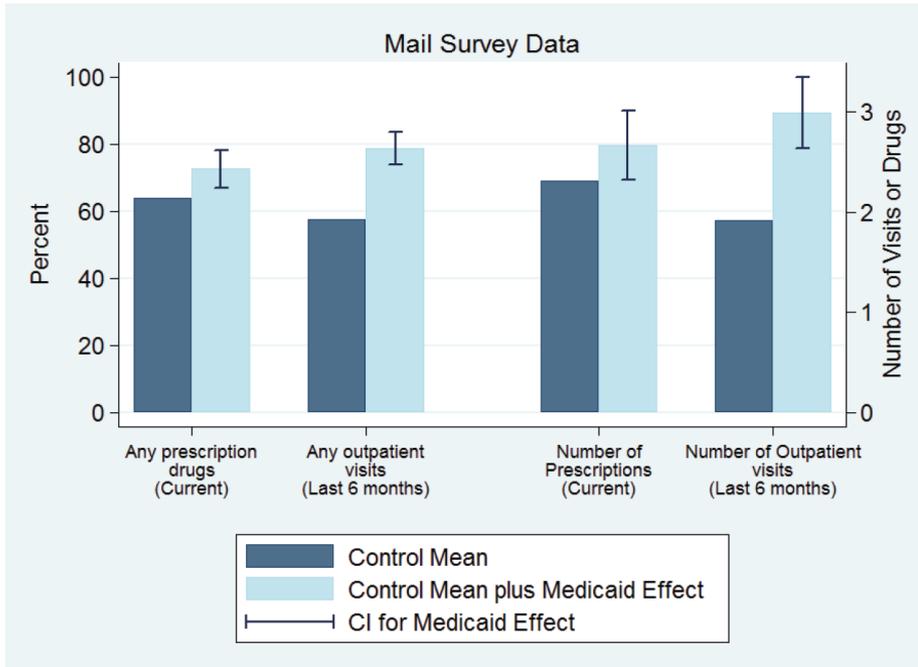
- Who signed up? [Exhibit 1]
- Individuals in Oregon who joined the waiting list are somewhat older and appear to be sicker than the overall target population.
- For example, of those who signed up, about 30% report having been diagnosed with high blood pressure compared to 17% in the target population, 33% are 50-64 compared to 9% in the target pop.
- Is this a surprise?

RESULTS: More ER, more hospitalization

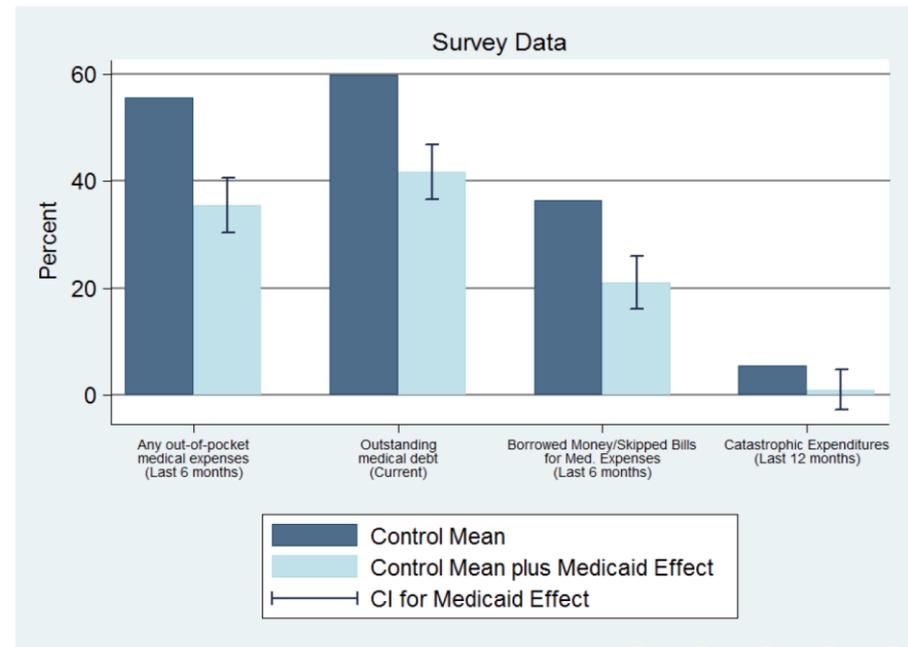
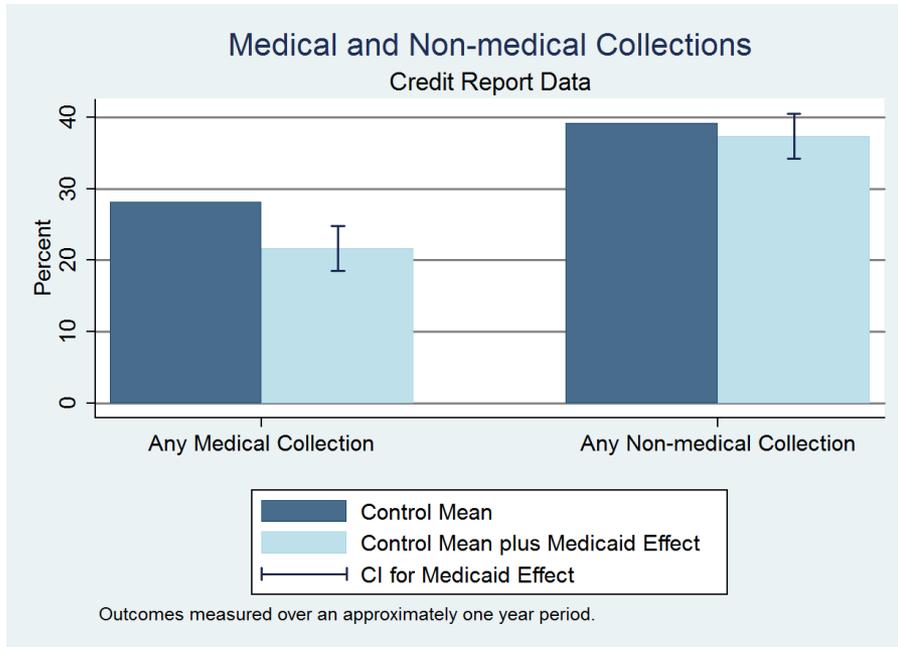


- Is it a surprise that ER use increased?
 - Price decreased to 0 → utilization should go up
 - But price of doctor's visit also 0 → cross price effects suggest that ER use should go down if substitutes

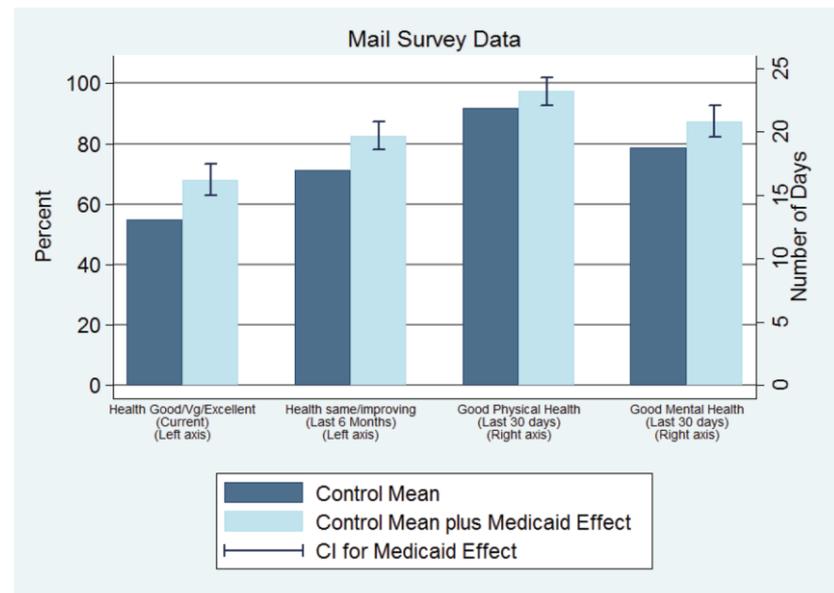
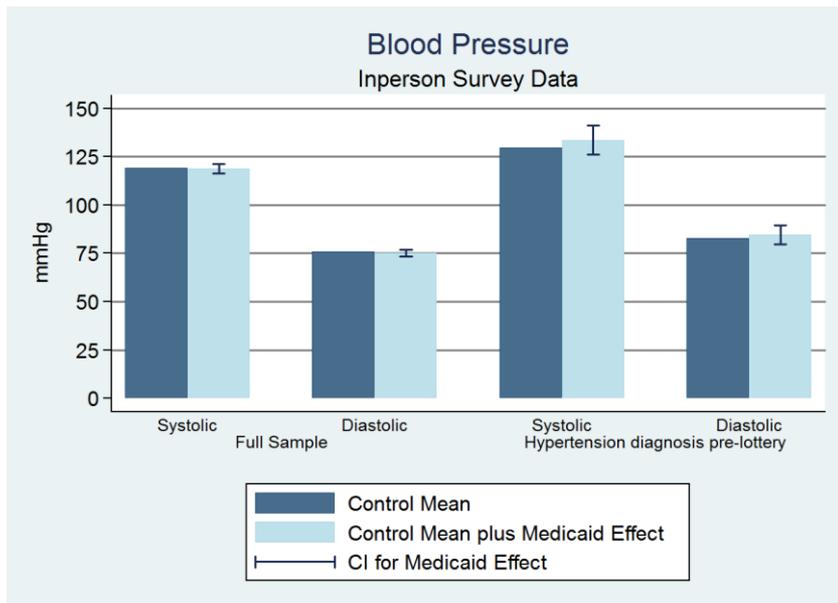
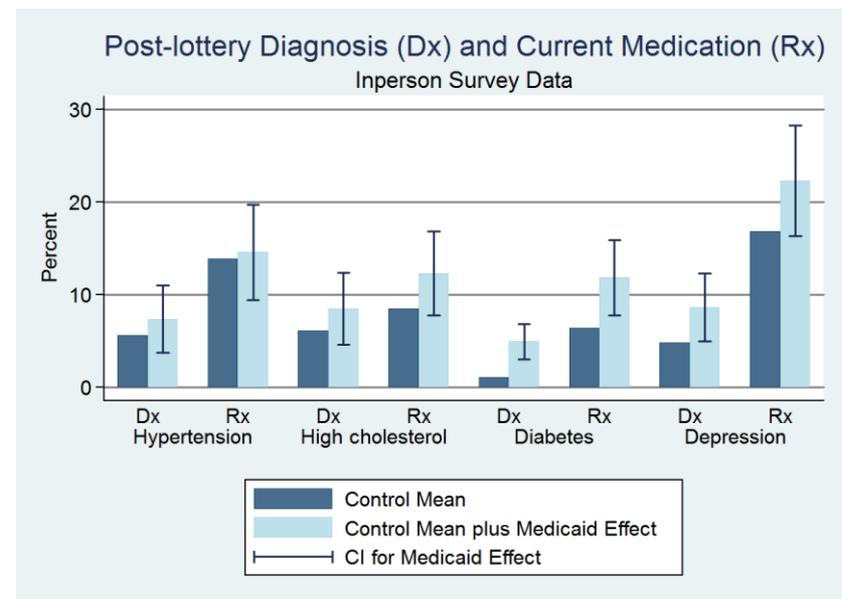
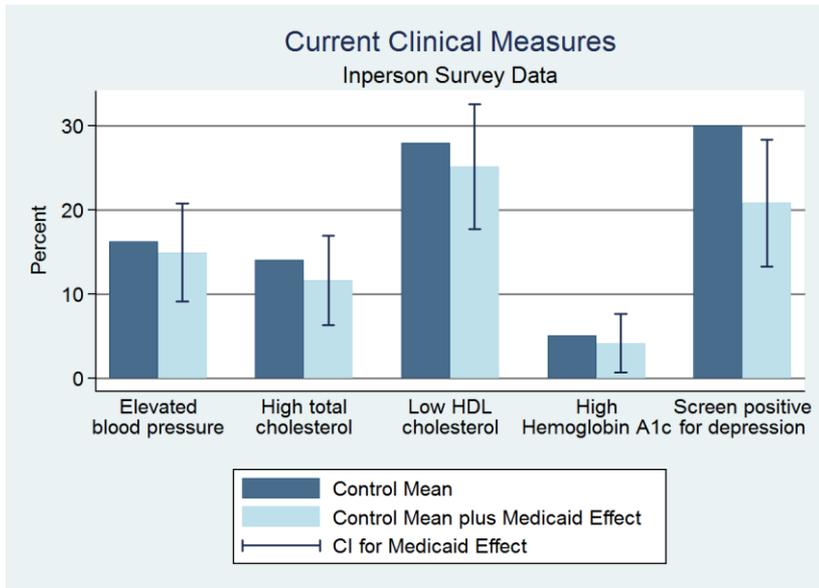
RESULT: More access, more preventative care



RESULT: Major improvement in financial stress



RESULT: Self reported health improves, insight on other health



The Oregon Experiment: Summary

- Key results: winning the Medicaid lottery leads to:
- 1) higher health care utilization (including primary and preventive care as well as hospitalizations)
- 2) lower out-of-pocket medical expenditures and medical debt (including fewer bills sent to collection)
- 3) better self-reported physical and mental health
- 4) more diagnoses of conditions, no evidence that the chronic conditions are more under control

Some thoughts

- **“Medicaid is worthless or worse than no insurance”**
 - Not true: Increases in utilization, reductions in financial strain, and improvement in depression, self-reported health and well-being
 - No improvements in measured physical health over (in this time period)
- **“Covering the uninsured will get them out of the Emergency Room”**
 - Not true: Medicaid increases use of ER (overall and for broad range of visit types)
- **“Health insurance saves money”**
 - Not true in short run: increases in health care use
 - In long run, remains to be seen: increases in preventive care and improvements in self-reported health

These studies can have a huge influence

5 Things the Oregon Medicaid Study Tells Us About American Health Care

A landmark new study of Oregon's Medicaid program reveals what's wrong with American health care

Four Reasons Why The Oregon Medicaid Results Are Even Worse Than They Look

Does The Oregon Health Study Show That People Are Better Off With Only Catastrophic Coverage?

Here's what the Oregon Medicaid study really said

Oregon's Lesson to the Nation: Medicaid Works

Is health insurance an antidepressant?

New findings show that wider coverage has one clear effect on the population, and it's not one that anyone is talking about.

Spending on Medicaid doesn't actually help the poor

Medicaid Access Increases Use of Care, Study Finds

But it costs a lot!

National Institute
on Aging ■ ◆ ✦ ✧

www.nia.nih.gov



ALFRED P. SLOAN
FOUNDATION

www.sloan.org

United States Department of
Health & Human Services

www.aspe.hhs.gov



CALIFORNIA
HEALTHCARE
FOUNDATION

www.chcf.org



Robert Wood Johnson
Foundation

www.rwjf.org

MACARTHUR

The John D. and Catherine T. MacArthur Foundation

www.macfound.org



www.cms.hhs.gov

SmithRichardson
FOUNDATION

www.srf.org



www.ssa.gov

B. Medicare

- Universal health insurance for 65+ since 1965
- How to evaluate the effect of Medicare?
- “Regression discontinuity” – compare those just over age 65 to those just under 65
 - Need to make sure that the two groups (just over vs just under) are similar → no other reasons for differing other than Medicare
- Program Introduction – compare outcomes before and after 1965
 - Need to make sure that there is nothing else affecting the outcomes over this time period

RESULT: Huge first stage; increase in coverage at age 65 particularly for disadvantaged

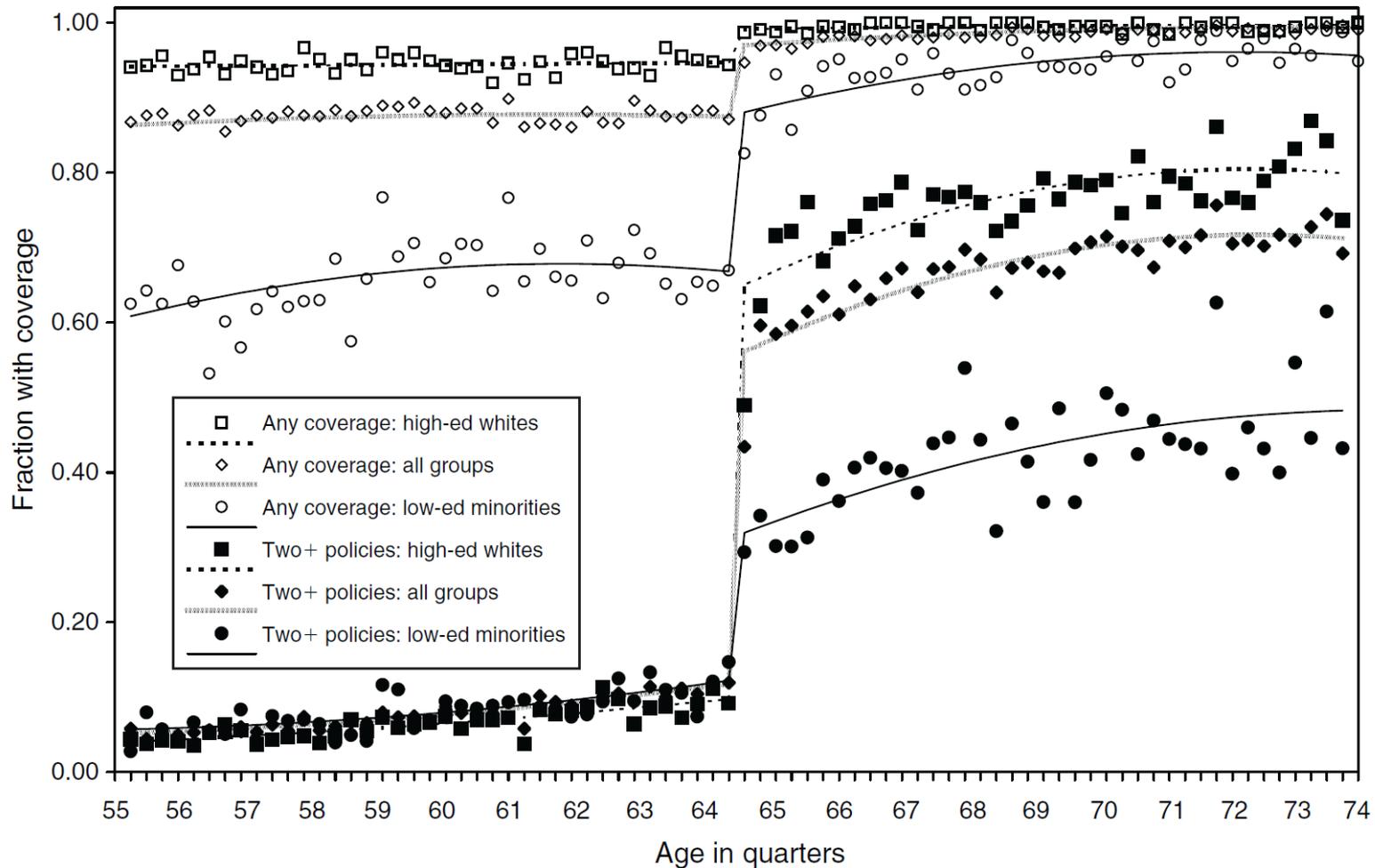


FIGURE 1. COVERAGE BY ANY INSURANCE AND BY TWO OR MORE POLICIES, BY AGE AND DEMOGRAPHIC GROUP

Source: Card, Dobkin, and Maestas AER 2008

Increase in hospital admissions; driven by discretionary medical care, diagnostic heart treatments.

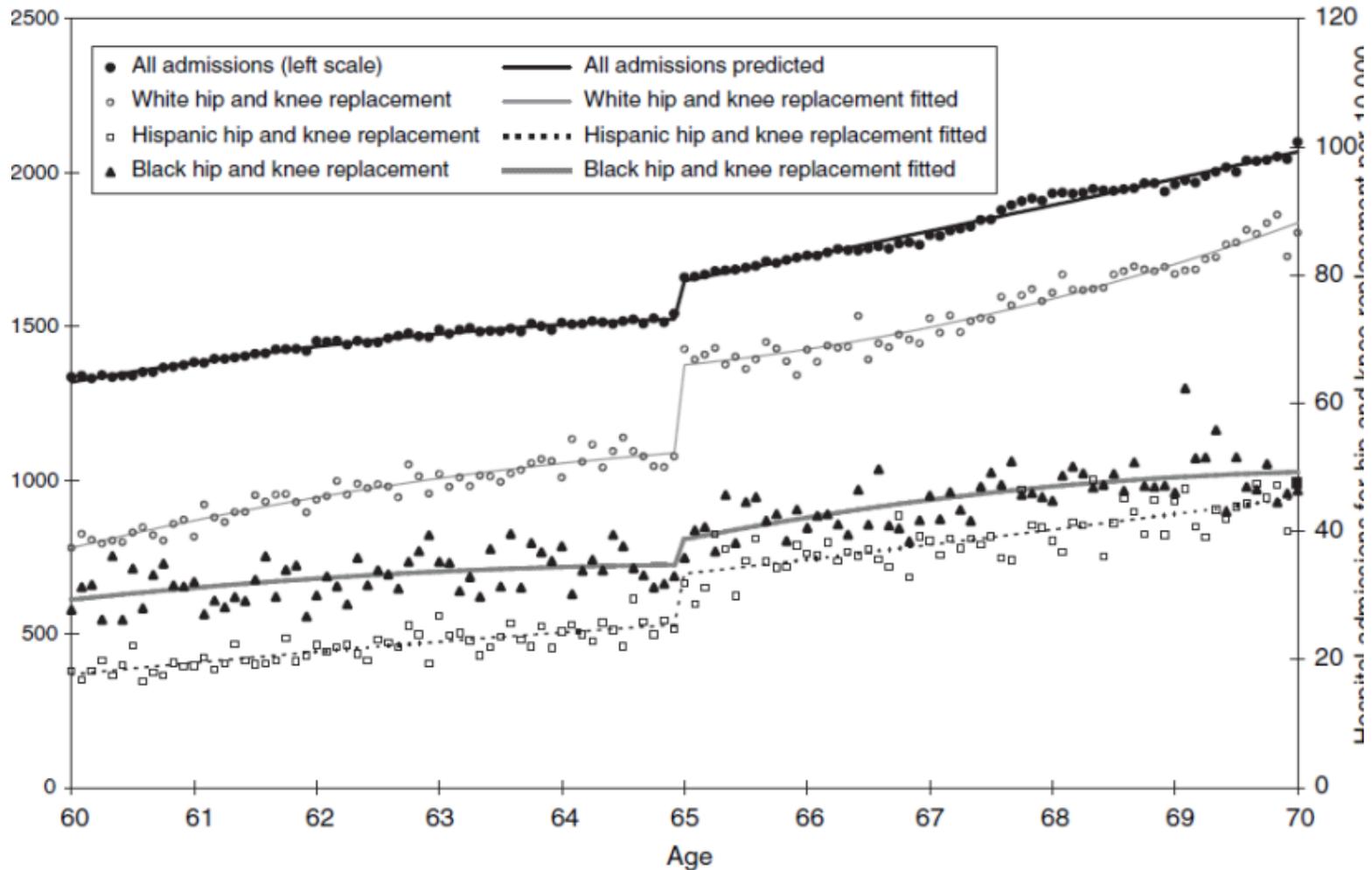


FIGURE 3. HOSPITAL ADMISSION RATES BY RACE/ETHNICITY

Source: Card, Dobkin, and Maestas AER 2008

RESULT: Nontrivial decrease in mortality.

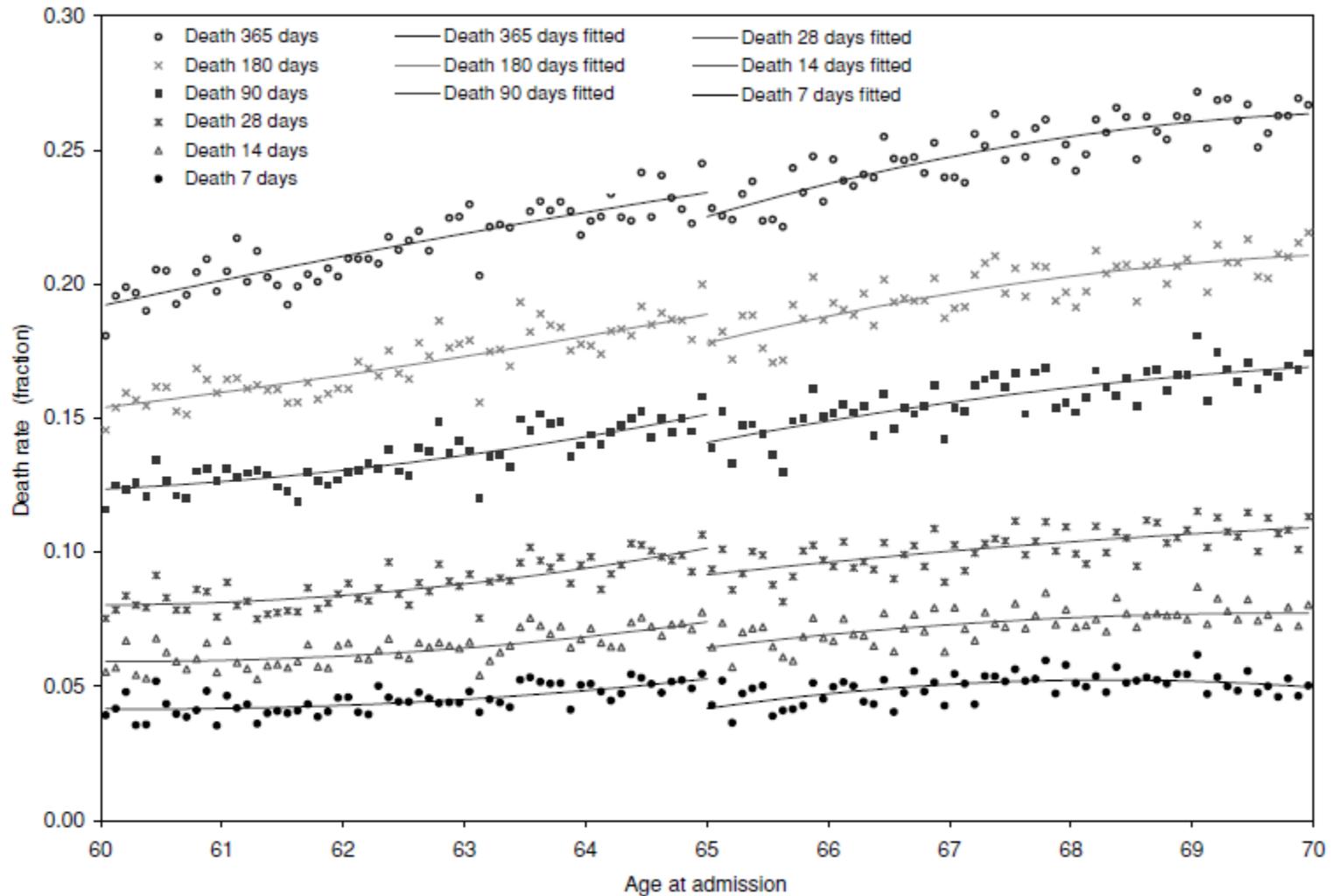


FIGURE VI
Patient Mortality Rates over Different Follow-Up Intervals

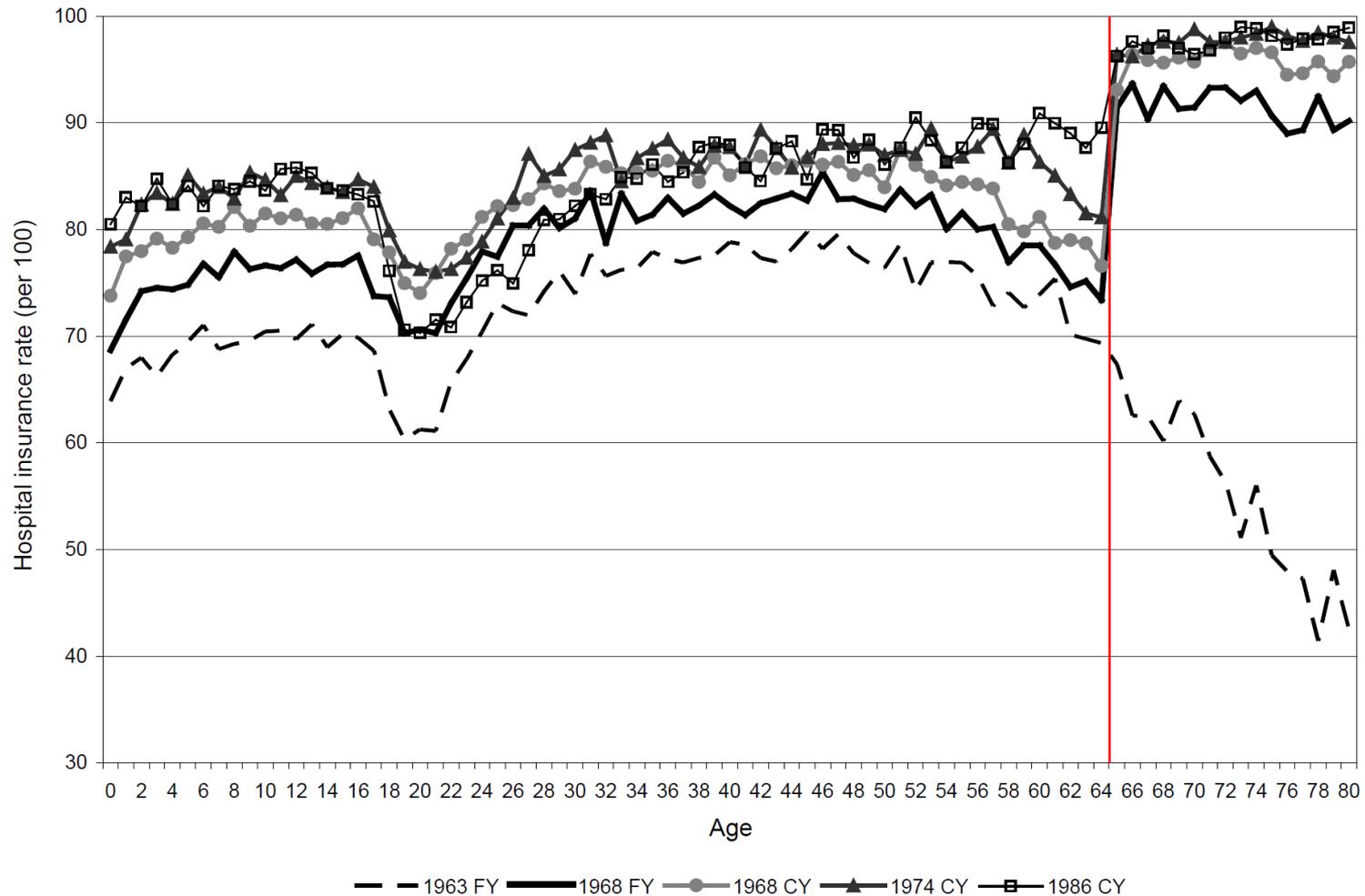
Source: Card, Dobkin, and Maestas QJE 2009

- A second approach is to analyzing Medicare introduction
- Chay et al “Health Insurance, Hospital Utilization and Mortality: Evidence from Medicare’s Origins”

PROGRAM ROLLOUT: Huge increase in coverage (first stage)

Figure 1: Hospital Insurance rates in the United States, by age and year

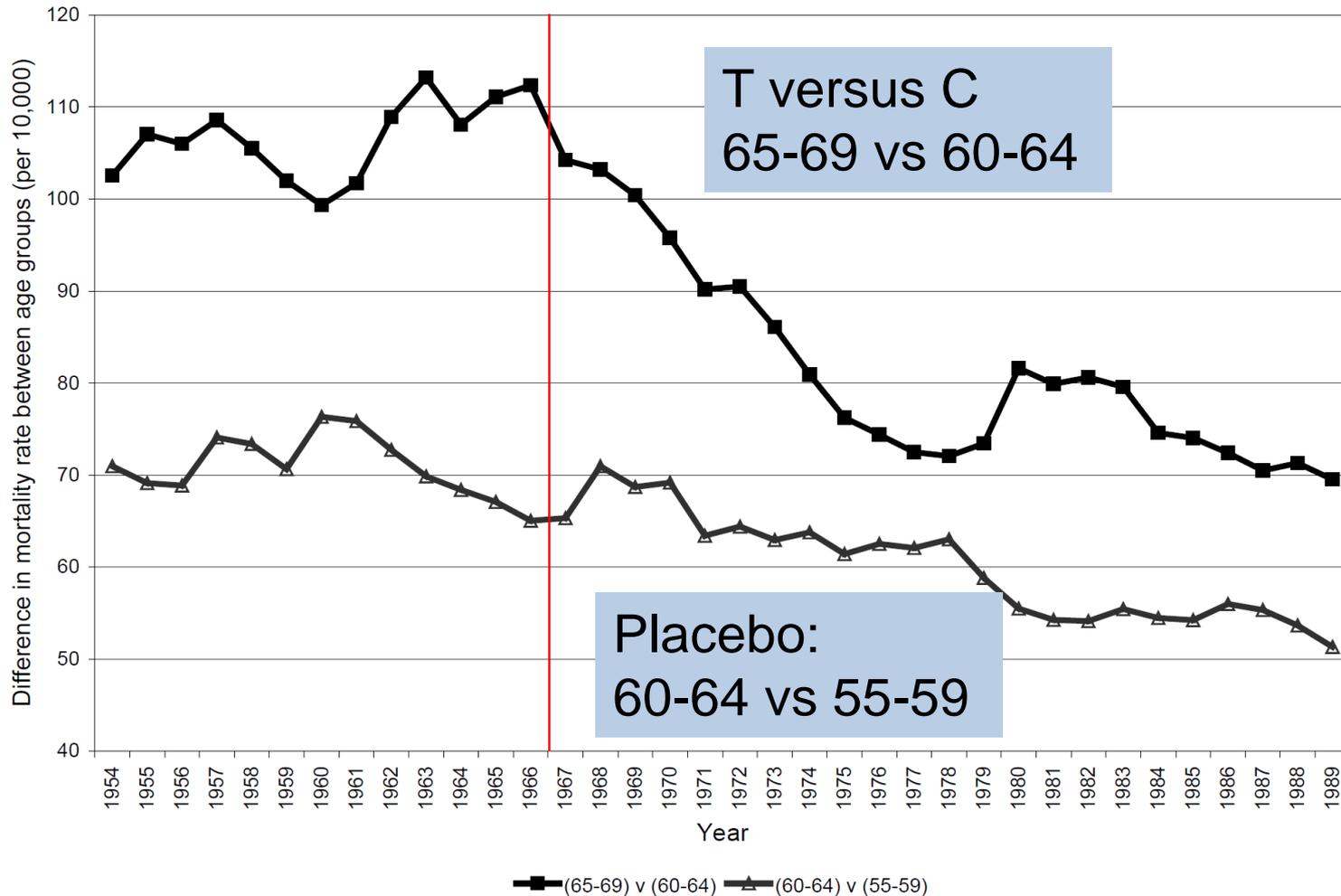
A. Percent with hospital insurance



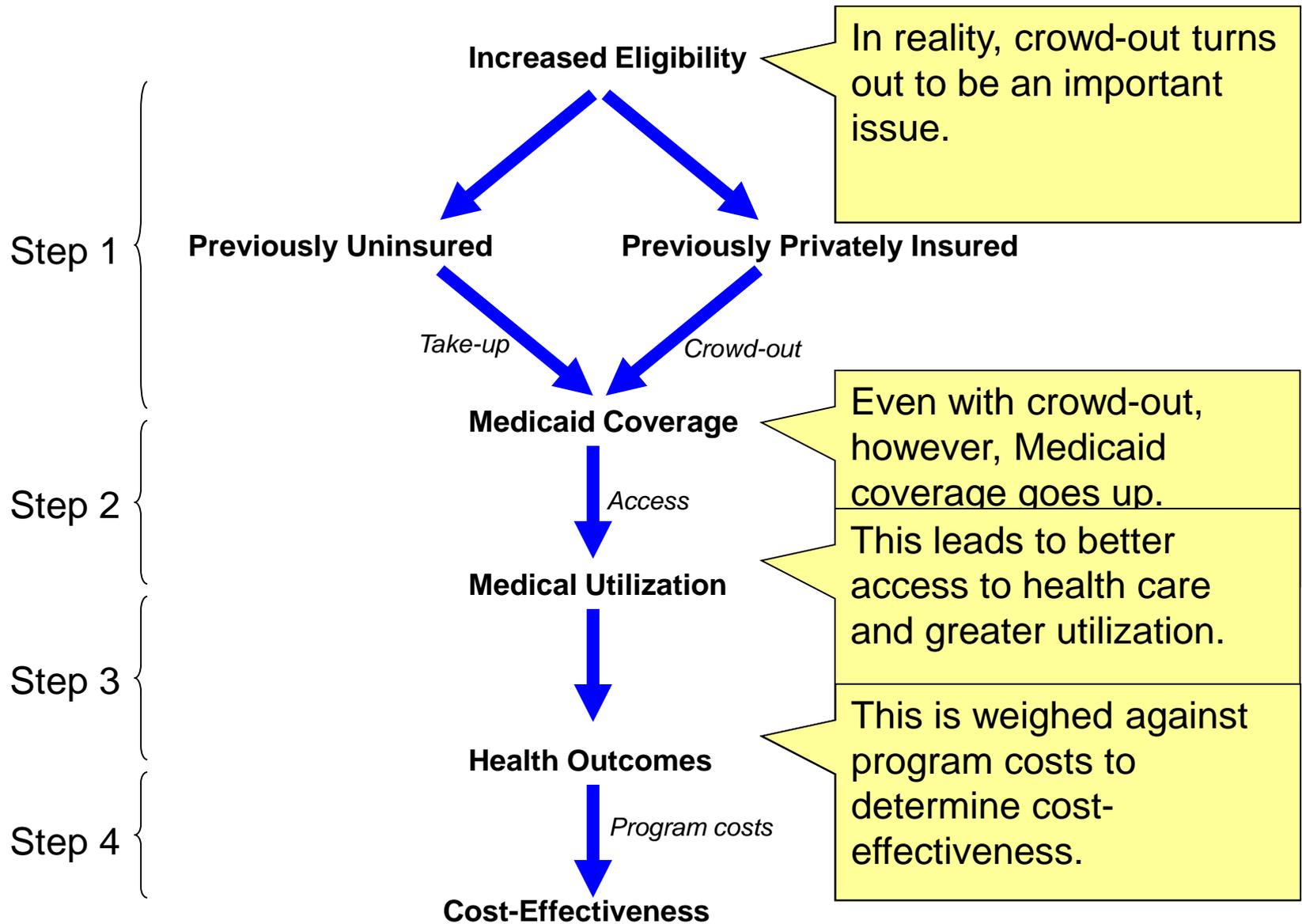
PROGRAM ROLLOUT: Large decline in mortality

Figure 4: Mortality rates over time in the United States, differences across age groups

A. Age group differences in all-cause mortality rates (per 10,000 individuals)



MEDICAID EXPANSIONS FOR CHILDREN AND PREGNANT MOTHERS



Results from Medicaid Expansions

1. Crowd-out is important to measure: *private insurance declines 20-50% of the public insurance increases*
2. Utilization of health services increased: Early prenatal care visits and child regular visits rose by more than 50%
3. Health care outcomes improved: Infant mortality declined by 8.5% due to the expansions in Medicaid for pregnant women.

Highly cost-effective policy

Health Care Reform, the ACA

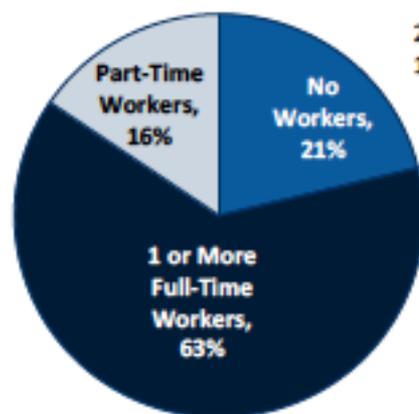
The uninsured (kind of pre-ACA)

- In 2012, over 47 million uninsured, 18%
- What does the Kaiser study say about who is uninsured?
 - Young adults
 - Lower Incomes
 - Employed in low wage jobs
 - Minorities

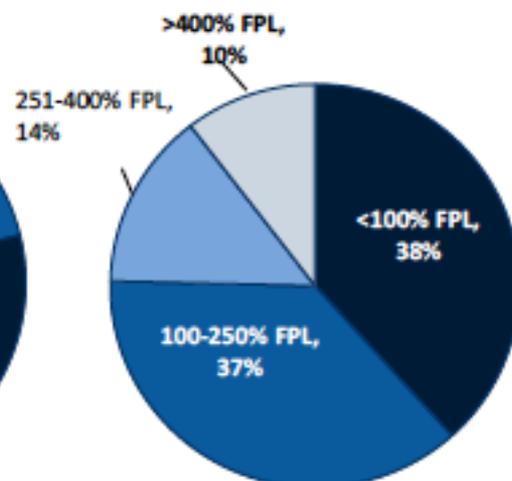
Figure 5

Characteristics of the Nonelderly Uninsured Population , 2012

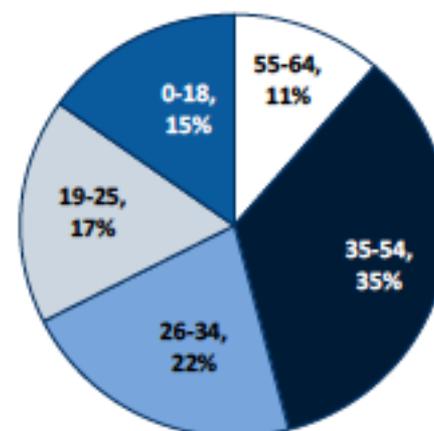
Family Work Status



Family Income



Age

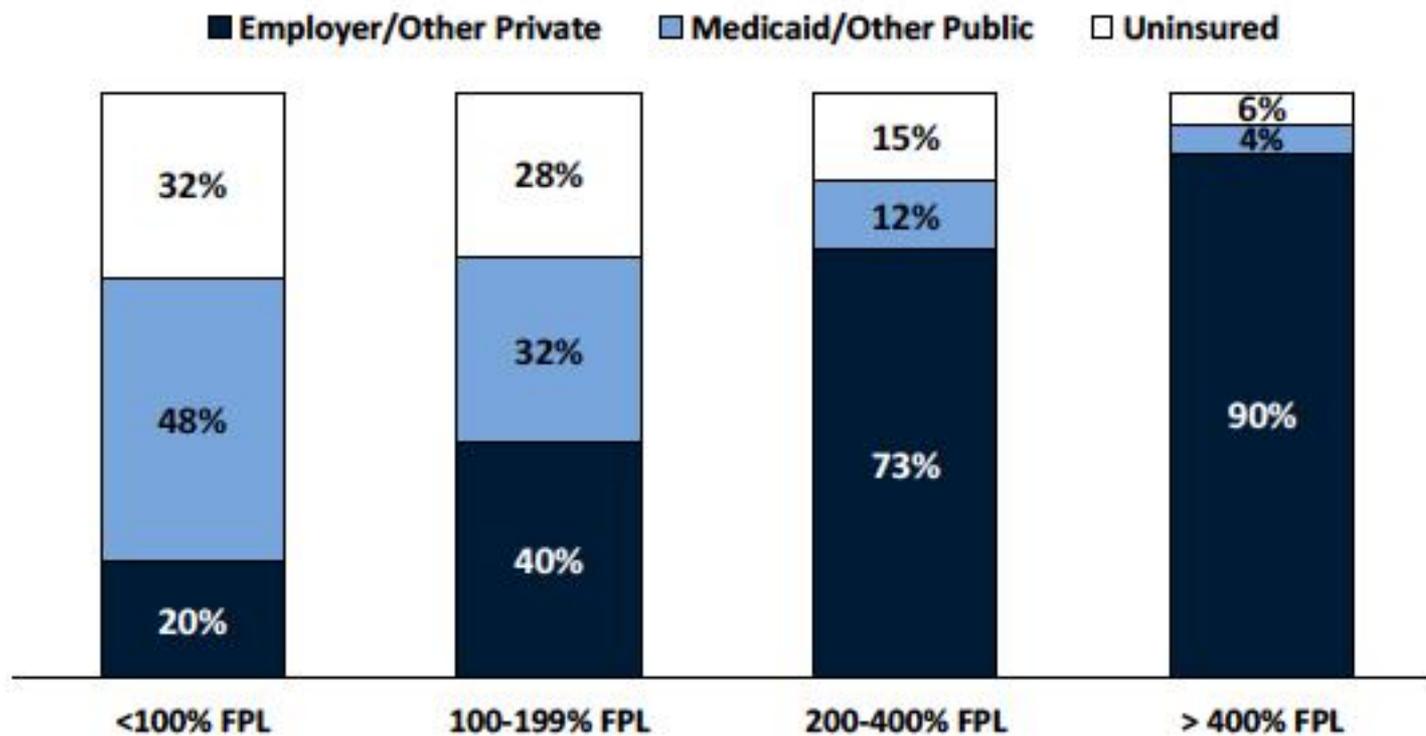


Total = 47.3 Million Uninsured

The federal poverty level was \$23,050 for a family of four in 2012. Data may not total 100% due to rounding.
SOURCE: KCMU/Urban Institute analysis of 2013 ASEC Supplement to the CPS.

Figure 2

Health Insurance Coverage of the Nonelderly by Poverty Level, 2012

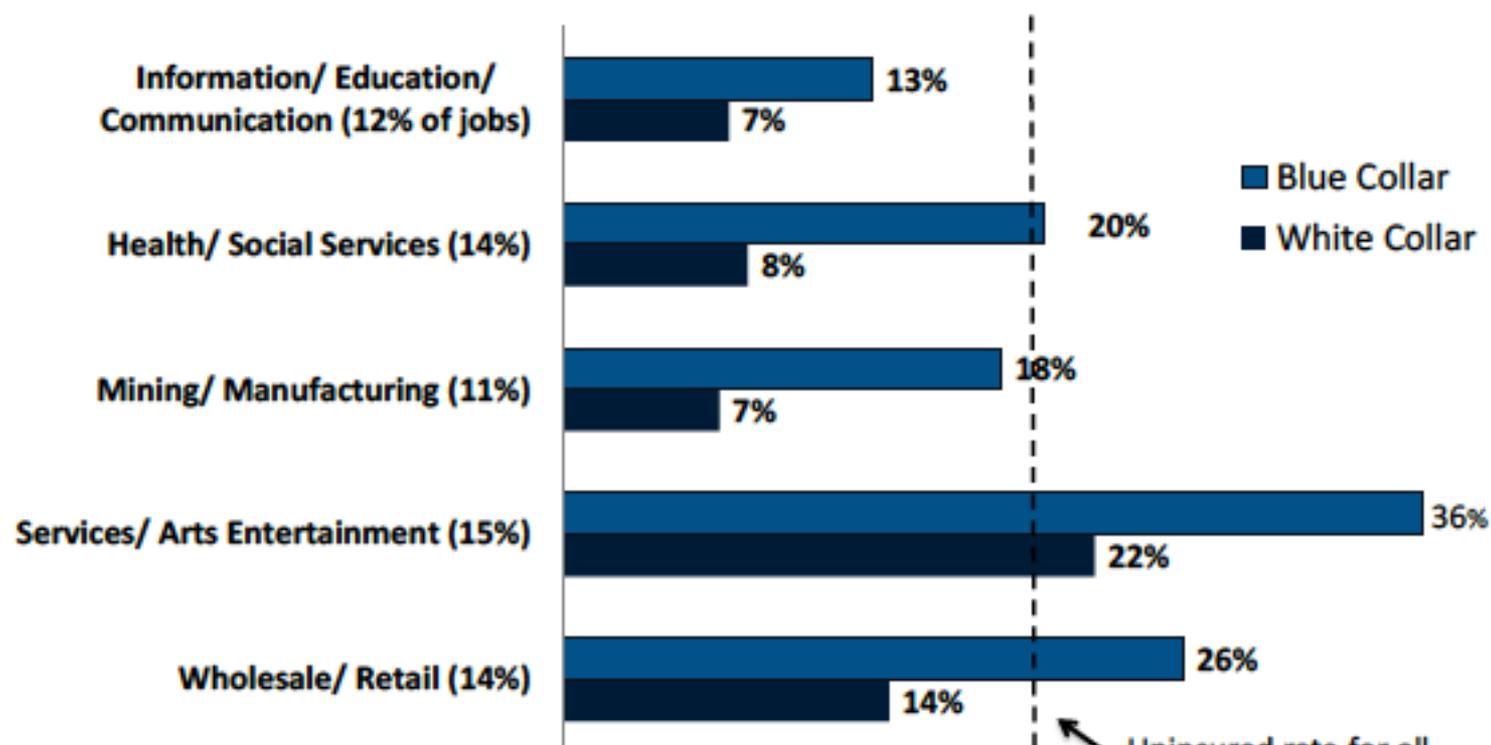


FPL – The federal poverty level was \$23,050 for a family of four in 2012. Data may not total 100% due to rounding.
SOURCE: KCMU/Urban Institute analysis of 2013 ASEC Supplement to the CPS.



Figure 3

Uninsured Rates Among Selected Industry Groups, White vs. Blue Collar Jobs, 2012



Analysis of workers age 18-64. White collar workers include all professionals and managers; all other workers classified as blue collar.

SOURCE: KCMU/Urban Institute analysis of 2013 ASEC Supplement to the CPS.

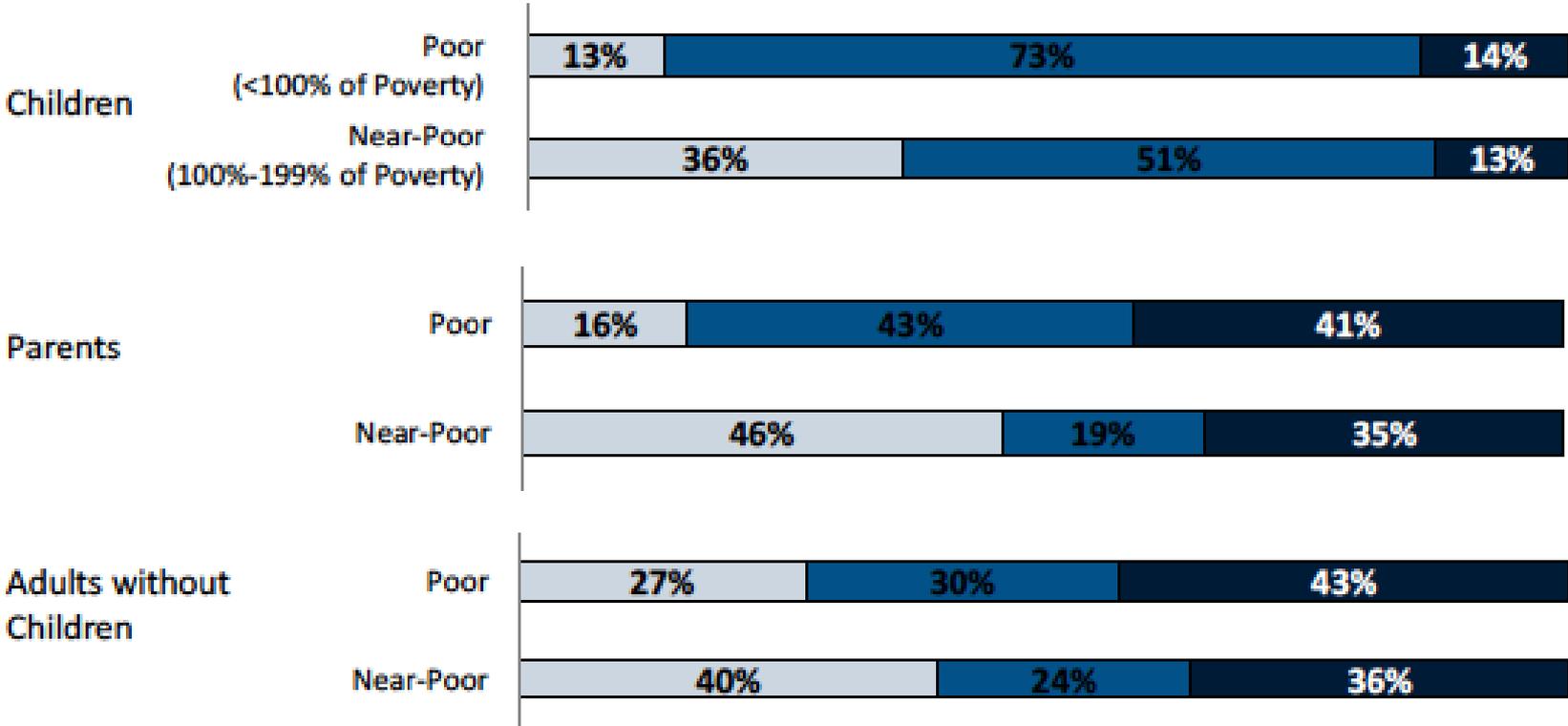


er-sponsored benefits) cover only 8% of people under age

Figure 4

Health Insurance Coverage of Low-Income Adults and Children, 2012

□ Employer/Other Private ■ Medicaid/Other Public ■ Uninsured

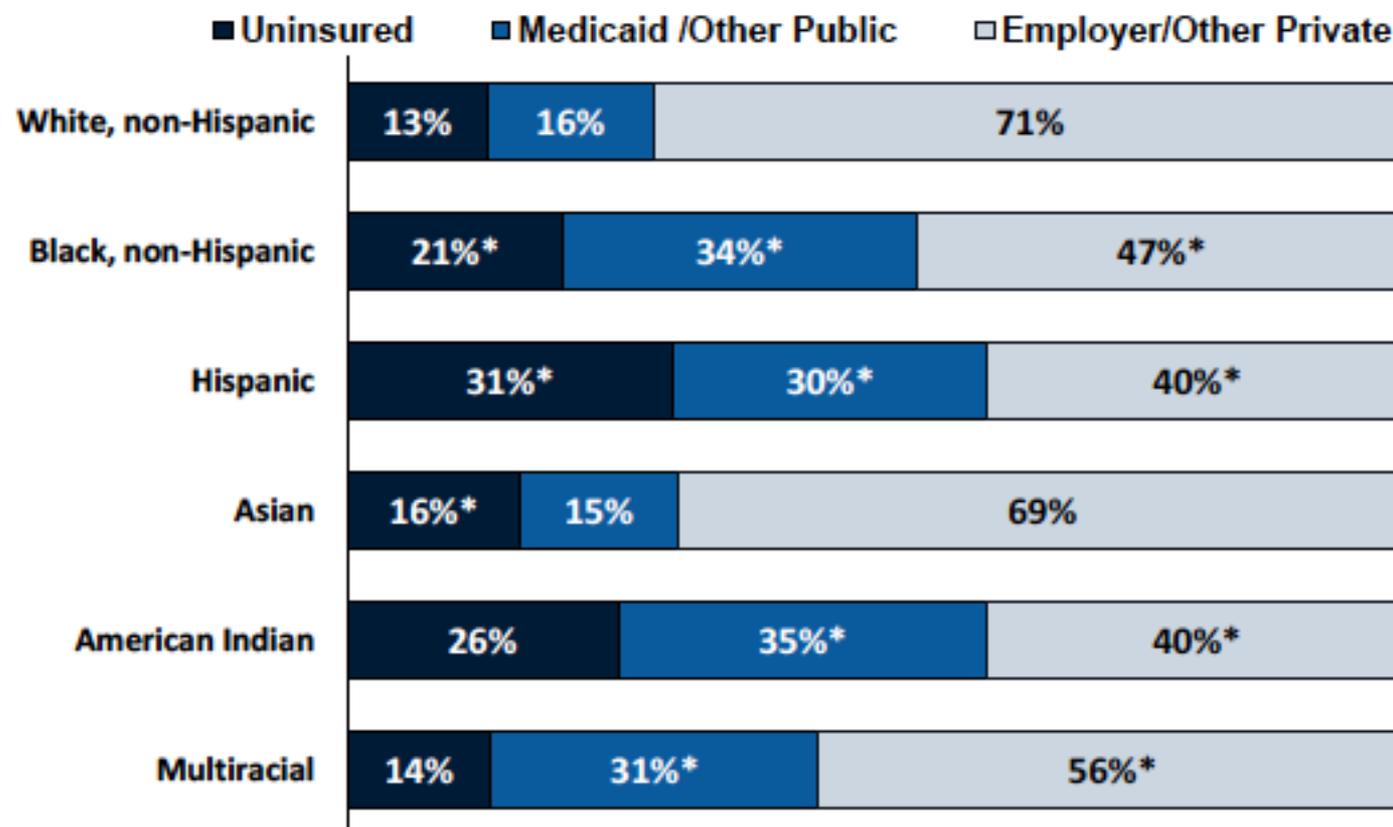


Data may not total 100% due to rounding.
SOURCE: KCMU/Urban Institute analysis of 2013 ASEC supplement to the CPS.



Figure 6

Insurance Coverage of Nonelderly by Race/Ethnicity, 2012



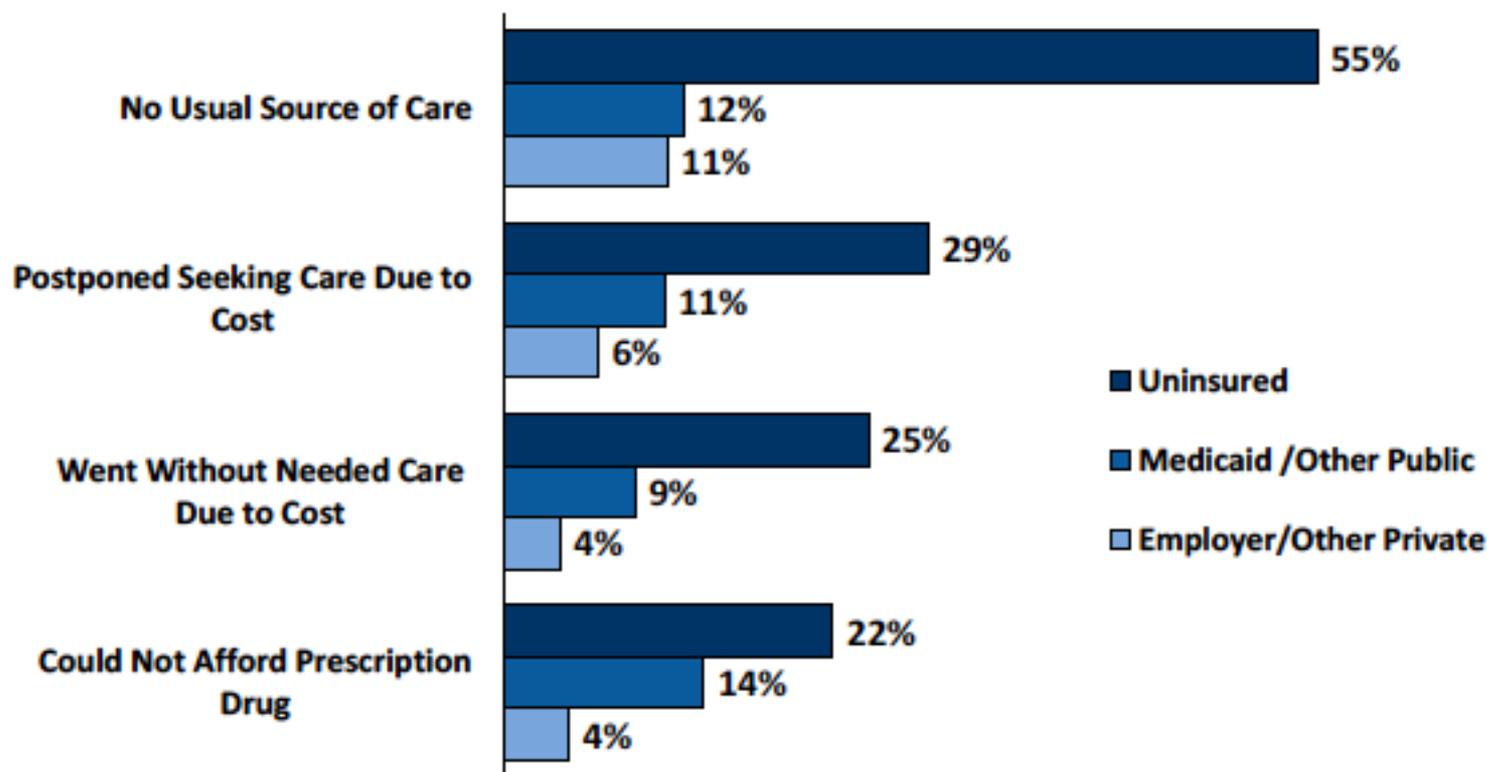
Asian group includes Pacific Islanders. American Indian group includes Aleutian Eskimos. Data may not total 100% due to rounding.

*-category for the given race/ethnicity is statistically different from White non-Hispanics

SOURCE: KCMU/ Urban Institute analysis of 2013 ASEC Supplement to the CPS.

Figure 11

Barriers to Health Care Among Nonelderly Adults by Insurance Status, 2012



In past 12 months.

Respondents who said usual source of care was the emergency room were included among those not having a usual source of care.

All differences between uninsured and insurance groups are statistically significant ($p < 0.05$).

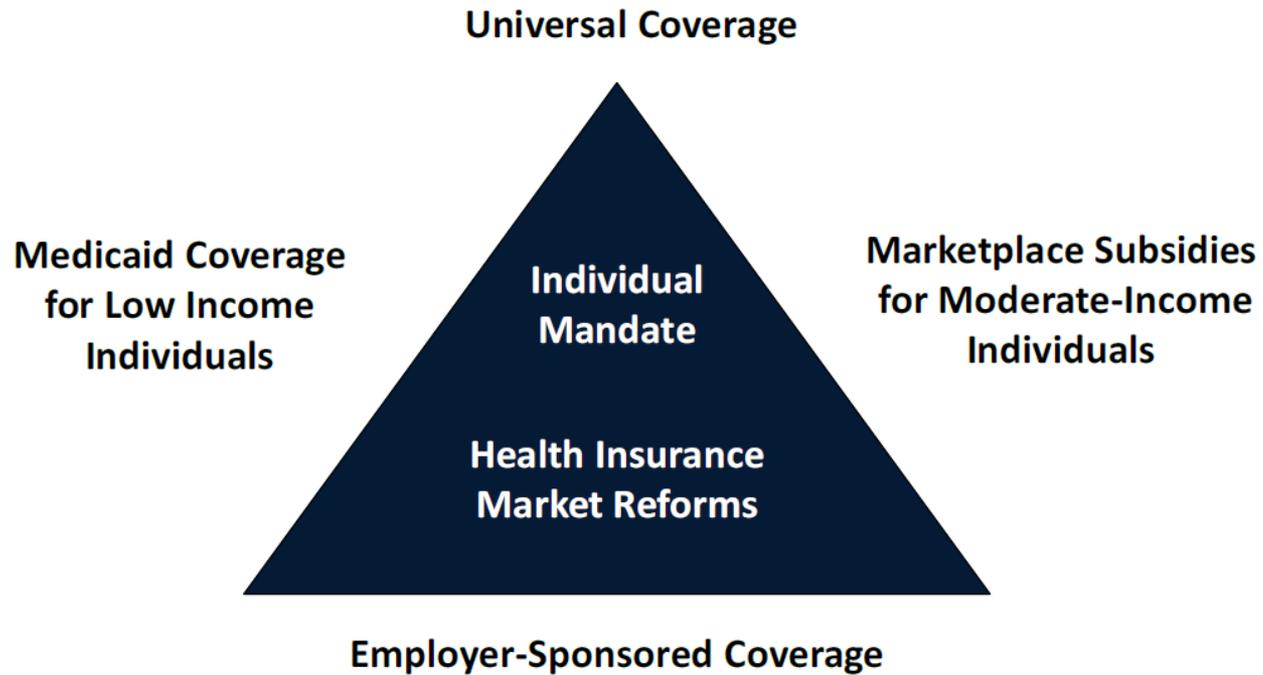
SOURCE: KCMU analysis of 2013 NHIS data.

Obamacare: Patient Protection and Affordable Care Act (ACA)

- Insurance market regulation: Bans pre-existing conditions exclusion and pricing based on health status
- Mandate: individuals (and large employers) are required to buy health insurance [else they pay a tax]
 - \$95 in 2014, \$325 in 2015, \$695 in 2016
- Free/subsidized insurance for low-income families [Medicaid expanded to 133% poverty line, subsidized health insurance up to 400% of poverty line]
- health care exchanges “marketplaces”: for individuals or small employers
- Starts trying to control costs [indeed costs increases have slowed down in recent years]
- The cost of the legislation will be financed through a combination of savings from Medicaid and Medicare and new taxes and fees, including an excise tax on high-cost insurance.

Figure 5

Key Elements of Health Reform

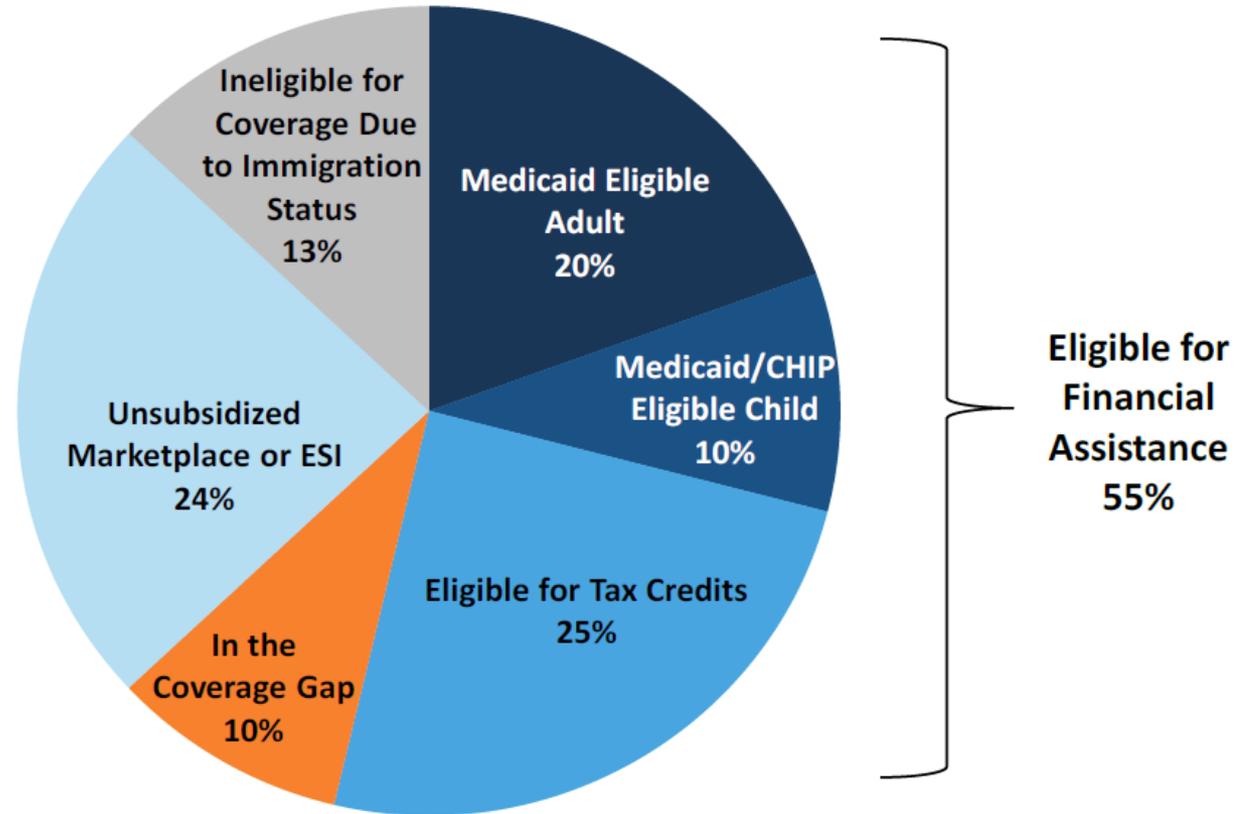


Exchanges: plans

- Create four benefit categories of plans plus a separate catastrophic plan to be offered through the Exchange, and in the individual and small group markets:
 - *Bronze plan* represents minimum creditable coverage and provides the essential health benefits, cover 60% of the benefit costs of the plan, with an out-of-pocket limit equal to the Health Savings Account (HSA) current law limit (\$5,950 for individuals and \$11,900 for families in 2010);
 - *Silver plan* provides the essential health benefits, covers 70% of the benefit costs of the plan, with the HSA out-of-pocket limits;
 - *Gold plan* provides the essential health benefits, covers 80% of the benefit costs of the plan, with the HSA out-of-pocket limits;
 - *Platinum plan* provides the essential health benefits, covers 90% of the benefit costs of the plan, with the HSA out-of-pocket limits;
 - *Catastrophic plan* available to those up to age 30 or to those who are exempt from the mandate to purchase coverage and provides catastrophic coverage only with the coverage level set at the HSA current law levels except that prevention benefits and coverage for three primary care visits would be exempt from the deductible. This plan is only available in the individual market.

Figure 6

Eligibility for Coverage as of 2014 Among Currently Uninsured Nonelderly Individuals

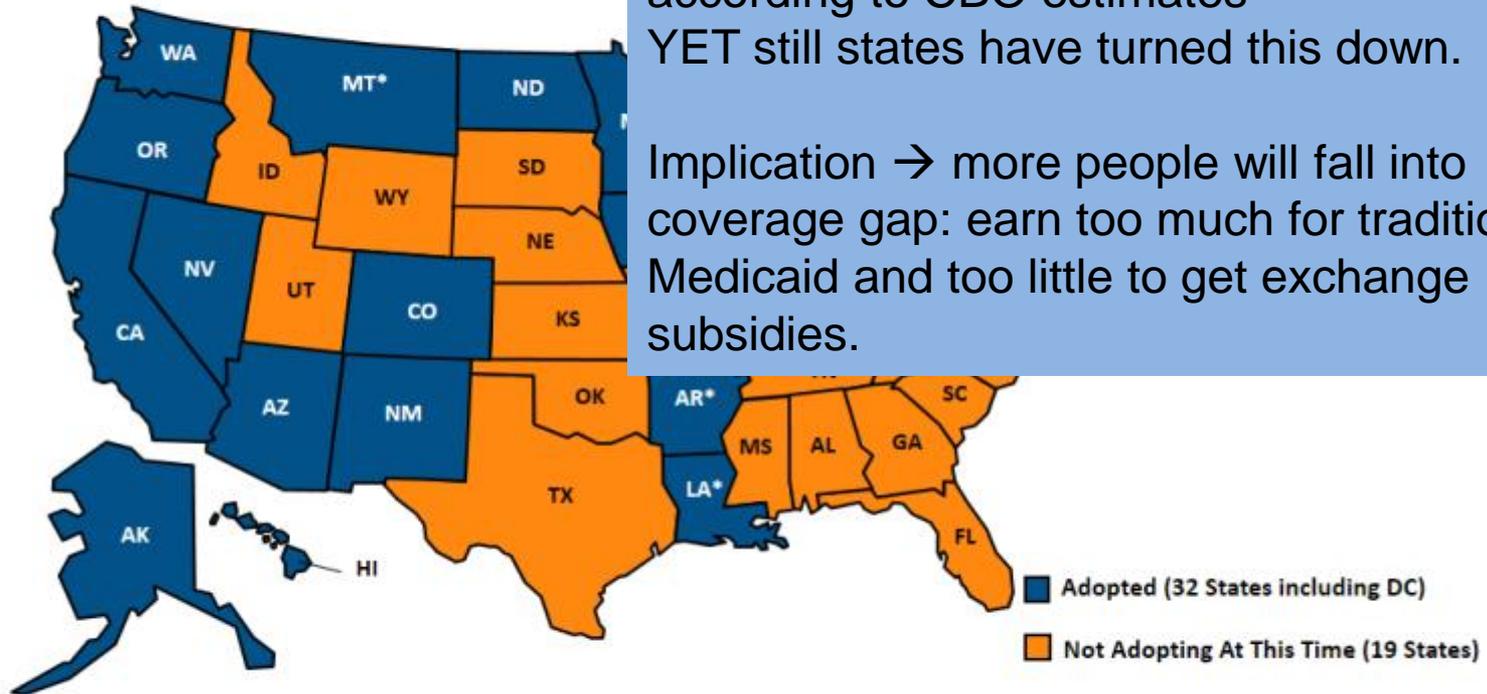


Total = 41.3 Million Nonelderly Uninsured

Notes: Those Ineligible for financial assistance includes people with ESI, individuals eligible to purchase unsubsidized Marketplace coverage, and individuals ineligible for coverage due to immigration status. People who have an affordable offer of coverage through their employer or other source of public coverage (such as Medicare or CHAMPUS) are ineligible for tax credits. Unauthorized immigrants are ineligible for either Medicaid/CHIP or Marketplace coverage.

SOURCE: Kaiser Family Foundation analysis based on 2014 Medicaid eligibility levels and 2014 Current Population Survey.

Current Status of State Medicaid Expansion



The federal government will pay nearly all of the expansion costs — 93 percent over the first nine years (2014-2022) — according to CBO estimates YET still states have turned this down.

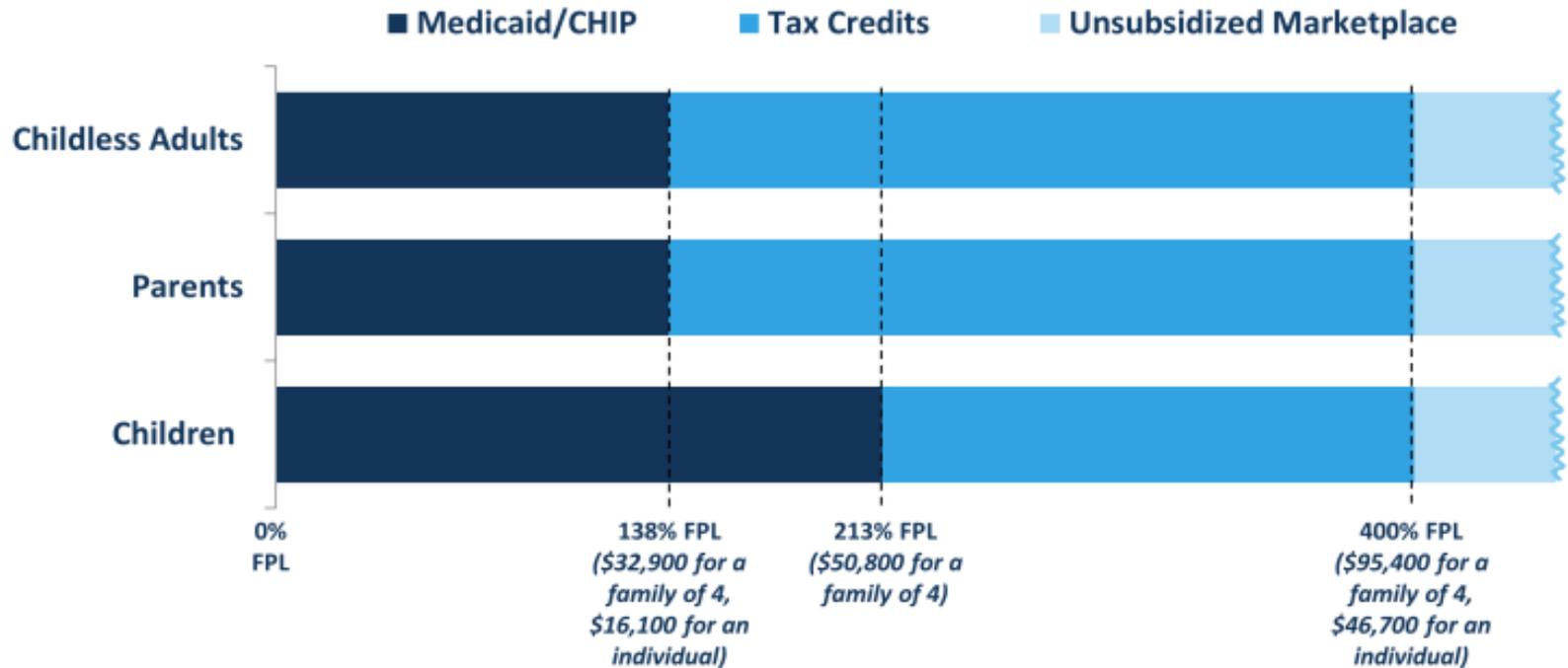
Implication → more people will fall into coverage gap: earn too much for traditional Medicaid and too little to get exchange subsidies.

NOTES: Current status for each state is based on KCMU tracking and analysis of state executive activity. *AR, IA, IN, MI, MT, NH and PA have approved Section 1115 waivers. Coverage under the PA waiver went into effect 1/1/15, but it has transitioned coverage to a state plan amendment. Coverage under the MT waiver went into effect 1/1/2016. LA's Governor Edwards signed an Executive Order to adopt the Medicaid expansion on 1/12/2016, but coverage under the expansion is not yet in effect. WI covers adults up to 100% FPL in Medicaid, but did not adopt the ACA expansion. See source for more information on the states listed as "adoption under discussion."

SOURCE: "Status of State Action on the Medicaid Expansion Decision," KFF State Health Facts, updated March 14, 2016. <http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>

Figure 2

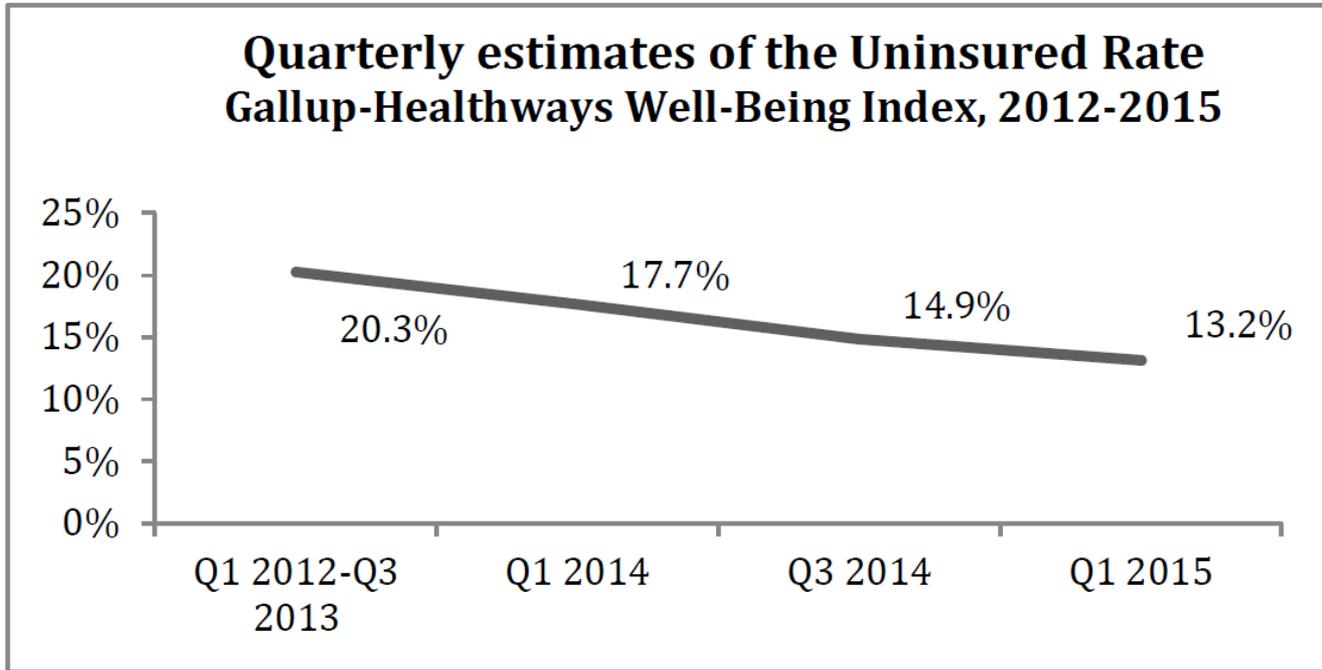
Income Eligibility Levels for Medicaid/CHIP and Marketplace Tax Credits in States Implementing the Medicaid Expansion as of 2014



Notes: Medicaid eligibility is based on current Medicaid eligibility rules converted to MAGI. Applies only to MAGI populations. Medicaid eligibility levels as a share of poverty vary slightly by family size; levels shown are for a family of four. People who have an affordable offer of coverage through their employer or other source of public coverage (such as Medicare or CHAMPUS) are ineligible for tax credits. Unauthorized immigrants are ineligible for either Medicaid/CHIP or Marketplace coverage.
Source: Kaiser Family Foundation analysis based on 2014 Medicaid eligibility levels.

Early evidence on the ACA

ACA: Uninsured is Declining



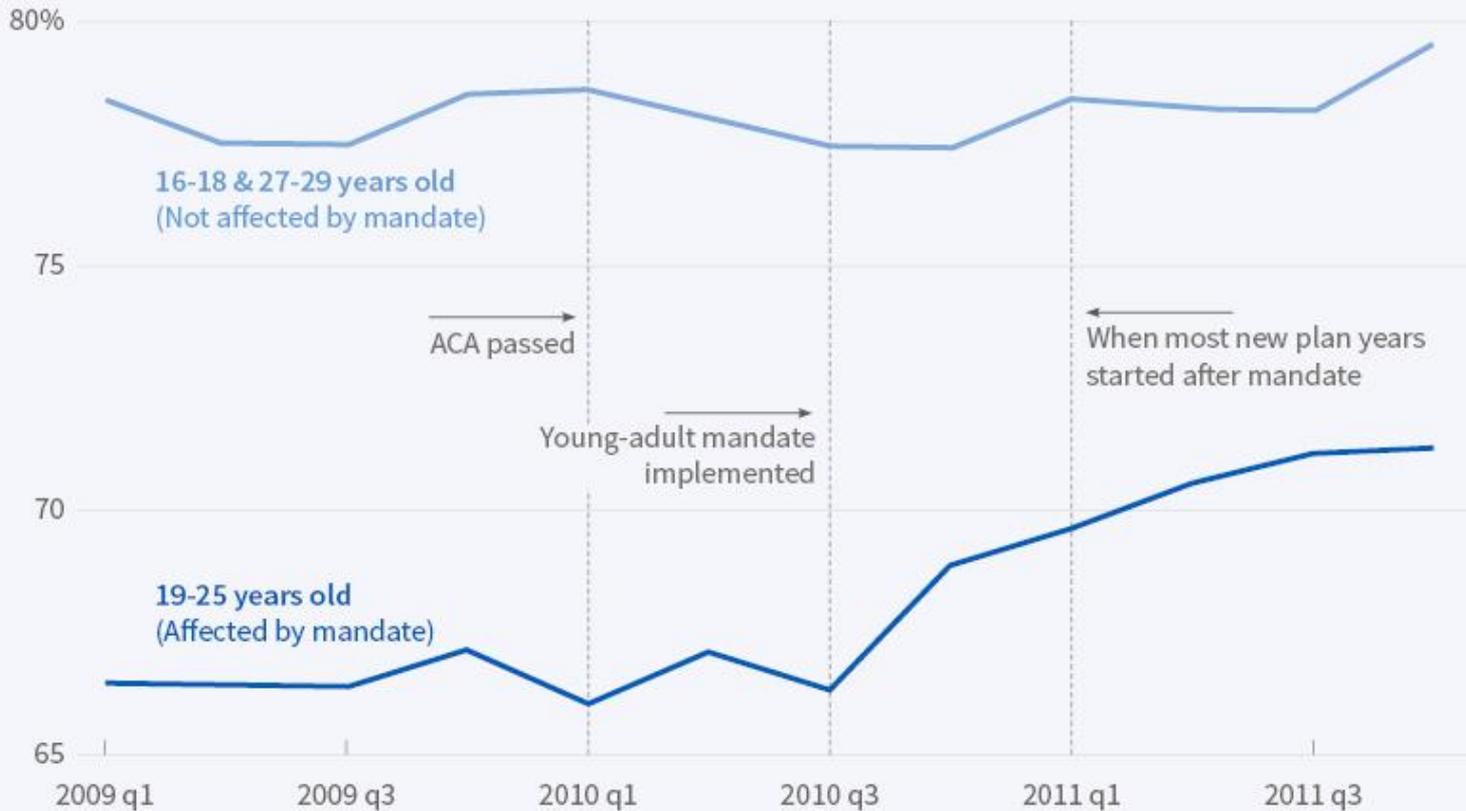
	Q1 2014	Q3 2014	Q1 2015
Number gained coverage since baseline (Q1 2012-Q3 2013)	5,200,000	10,700,000	14,100,000

ACA: Uninsured is Declining

THE IMPACT OF THE YOUNG-ADULT MANDATE

Insurance coverage rose for those who could stay on parents' plan

Young adults with any insurance coverage

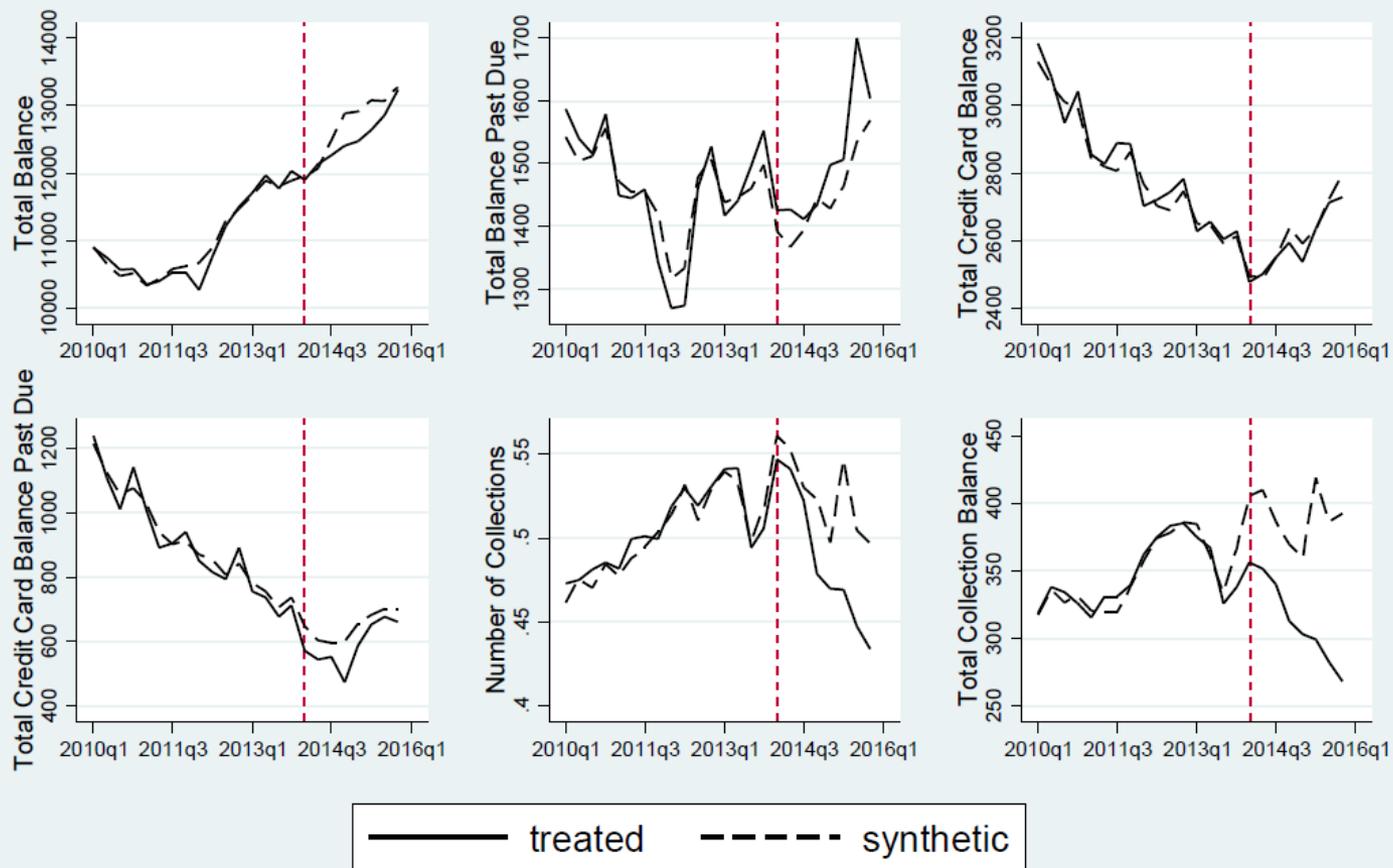


Source: Y. Akosa Antwi, A. Moriya, and K. Simon, NBER Working Paper No. 18200

ACA: Financial security is increasing

- Previous research has linked hospitalizations among the uninsured to higher risk of bankruptcy, unpaid bills and a lowered credit score.
- Study examined credit reports, comparing states that expanded Medicaid to states that didn't
- Found reduction in number of bills sent to collections and the amount of debt sent to collections.

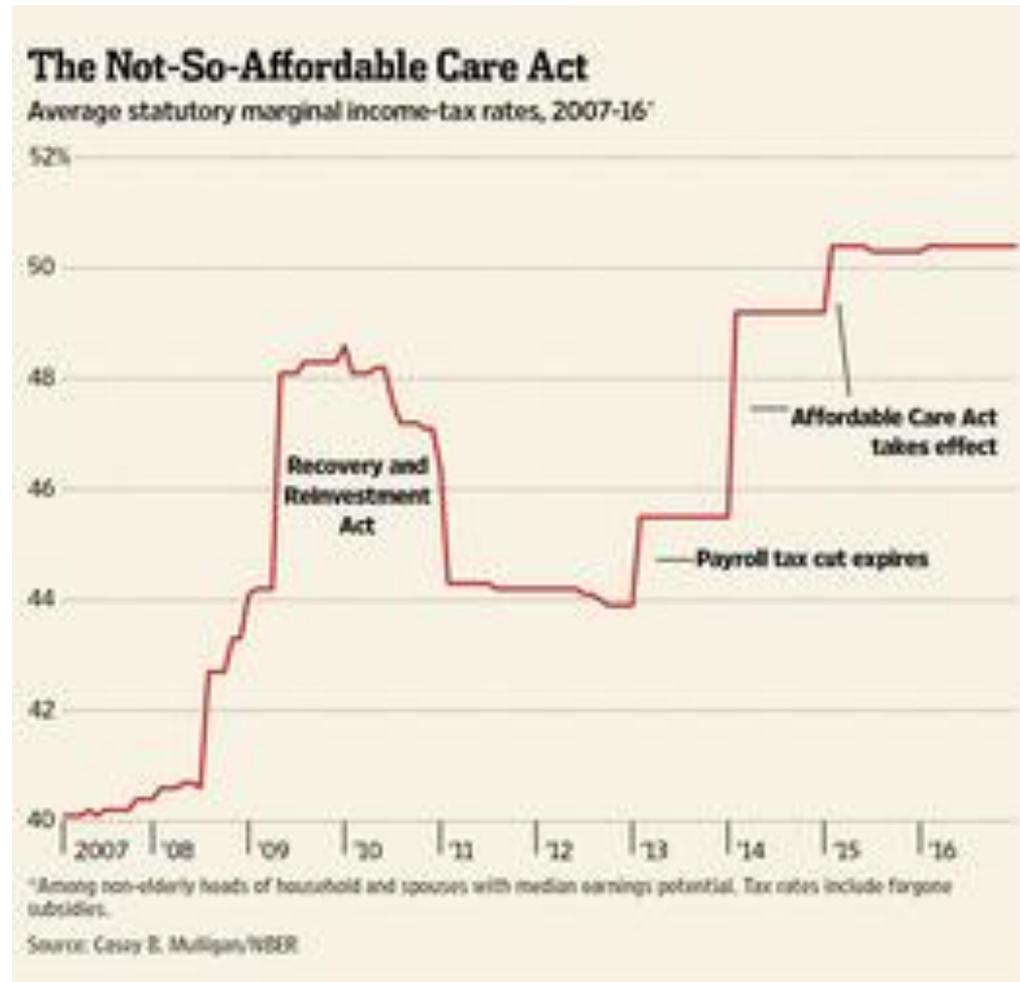
Most Treated Zip Codes, Ages 19-64 21 Treated States, 26 Potential Controls



Source: Hu, Kaestner, Mazumder, Miller & Wong, NBER WP 22170 2016.

- Its easy to forget that it is insurance; protecting financial wellbeing
- “Even if you lack health insurance, you’ll probably be able to get treatment at a hospital in the event of a catastrophe — if you’re struck by a car, say. But having insurance can mean the difference between financial security and financial ruin.” (NYT 4/20/16)
- This is a common thread and very important finding in Oregon and ACA (and Mass.)
- Pathway from less financial stress to better health?

- CBO report: subsidy phase-outs, loss of Medicaid, and other provisions reduce incentive to work and result in a reduction in full-time-equivalent work hours of 2.5 million jobs
- Mulligan oped



Results from Massachusetts (April 2006, similar reform)

- MA uninsurance rate 3%, compared to 18% nationally.
- Half of the increase in coverage from Medicaid or government subsidized plans.
- Premiums in the non-group market have fallen by half relative national trends.
- Decreased in inpatient admissions originating from the ER. Some evidence that hospitalizations for preventable conditions were reduced.
- Costs of the reform roughly consistent with projections.