

Why SNAP Matters: Effects on poverty, food insecurity and health

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Supplemental Nutritional Assistance Program (SNAP), A Snapshot

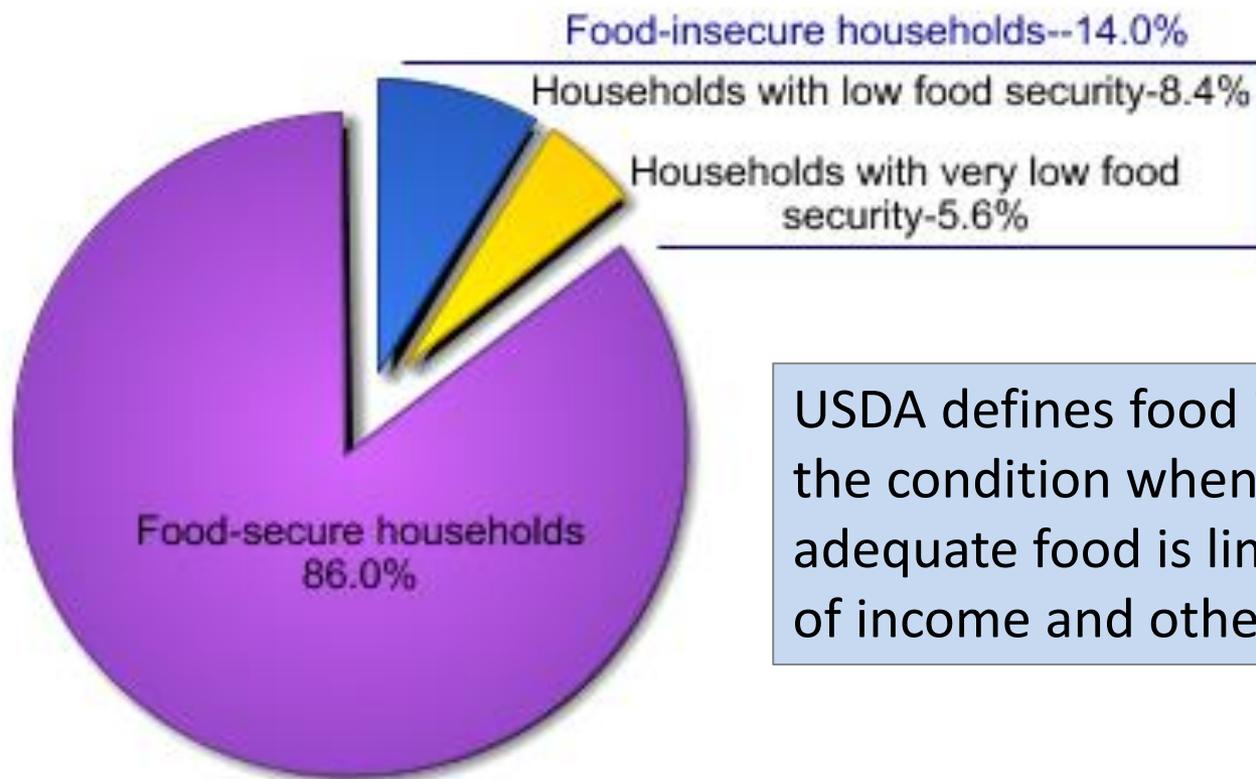
- Previously known as Food Stamps
- In 2014, SNAP served 47.5 million people in 23 million households at a cost of \$70 billion dollars
 - Average monthly benefit \$257 per household, About \$4.20 per person per day
- Central element of the U.S. social safety net and main government policy aimed at reducing food insecurity; available nationwide since 1975
- Survived welfare reform in the 1990s intact but many groups are currently interested in cutting back and reforming the program

Given where we are at, this is a good time to assess *Why SNAP Matters*

1. *Food insecurity and poverty*
2. *SNAP and the social safety net*
3. *Why SNAP is a central part of the safety net*
4. *SNAP as an investment*

1. Food insecurity and poverty

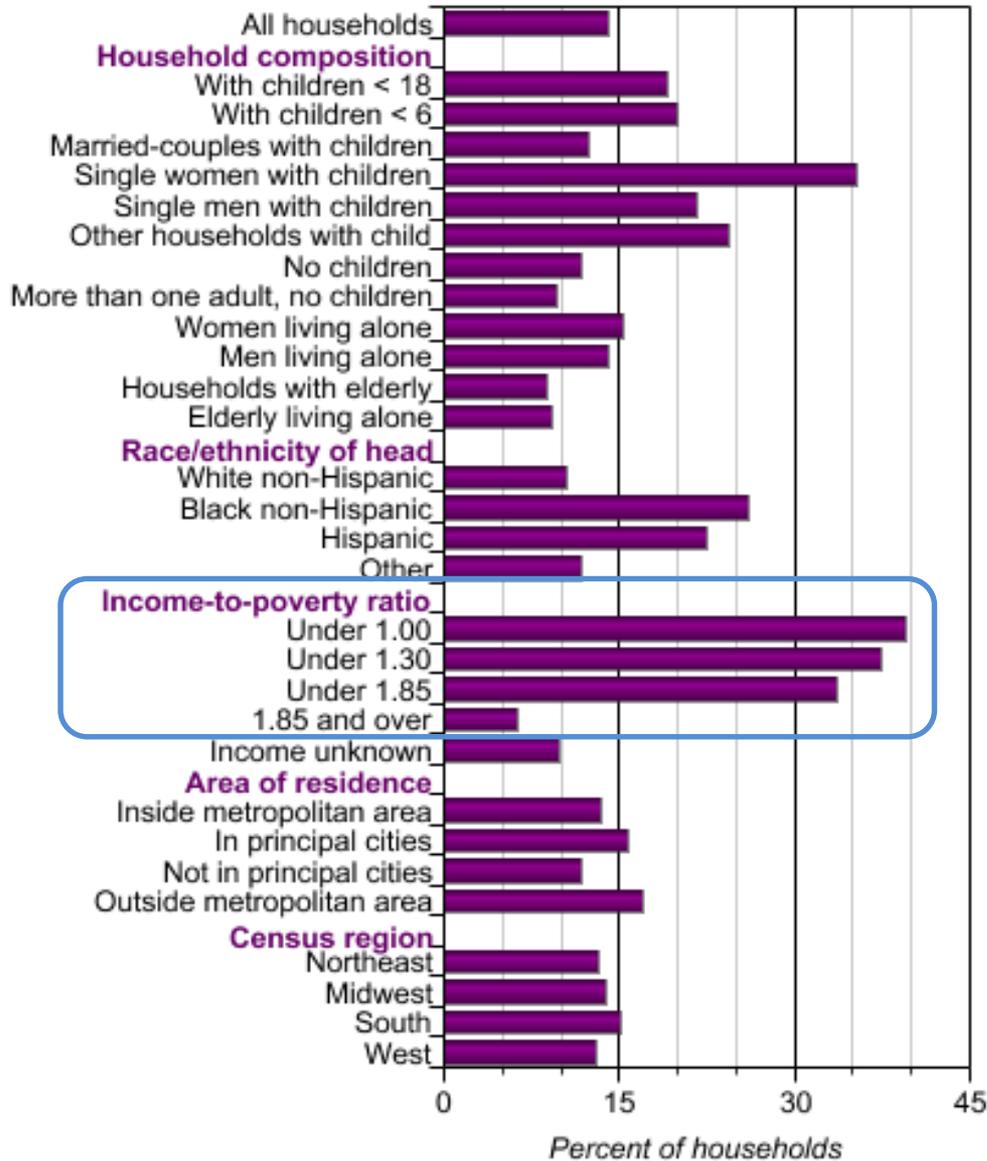
U.S. households by food security status, 2014



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.

Prevalence of food insecurity, 2014

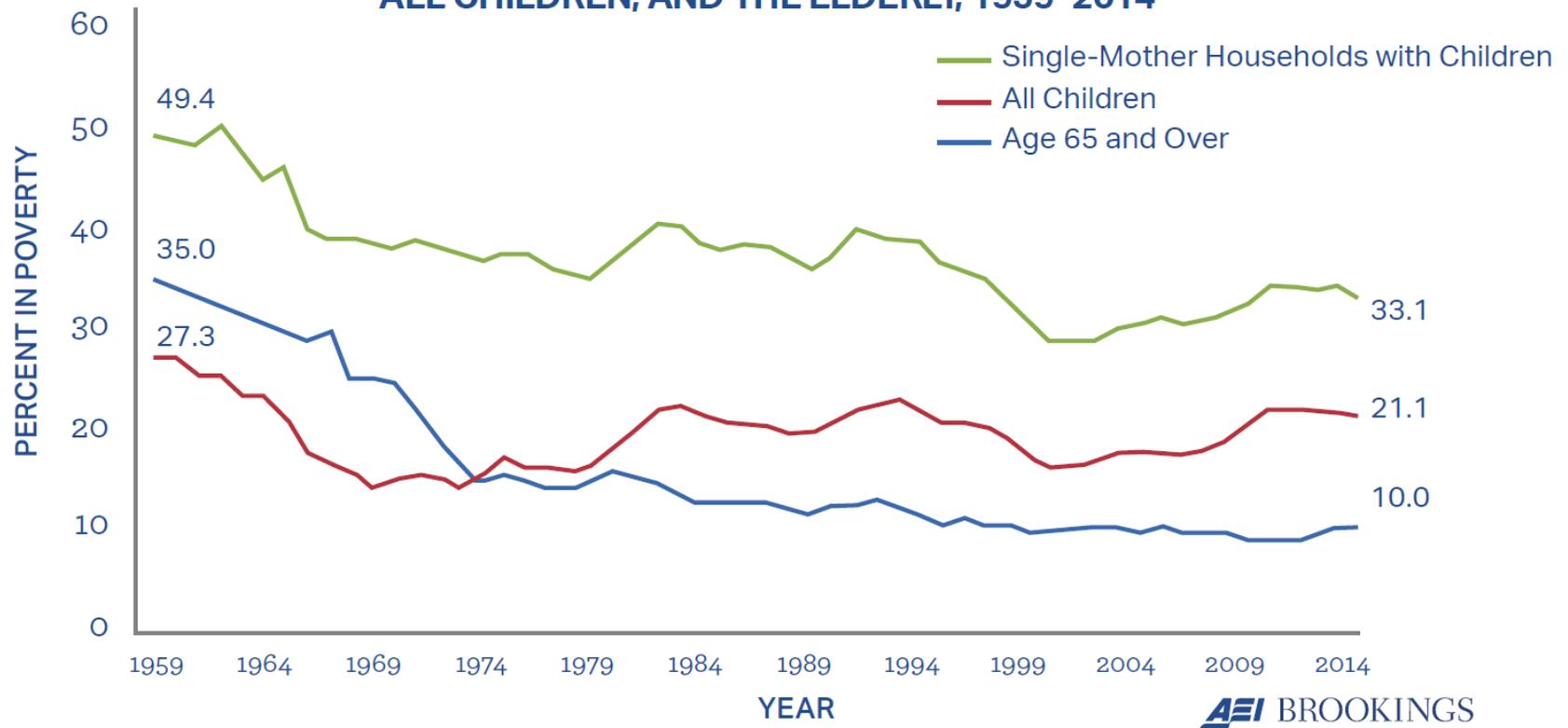


Higher rates of food insecurity among:

- Children, racial and ethnic minorities

Economic resources are a particularly strong determinant of food insecurity

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



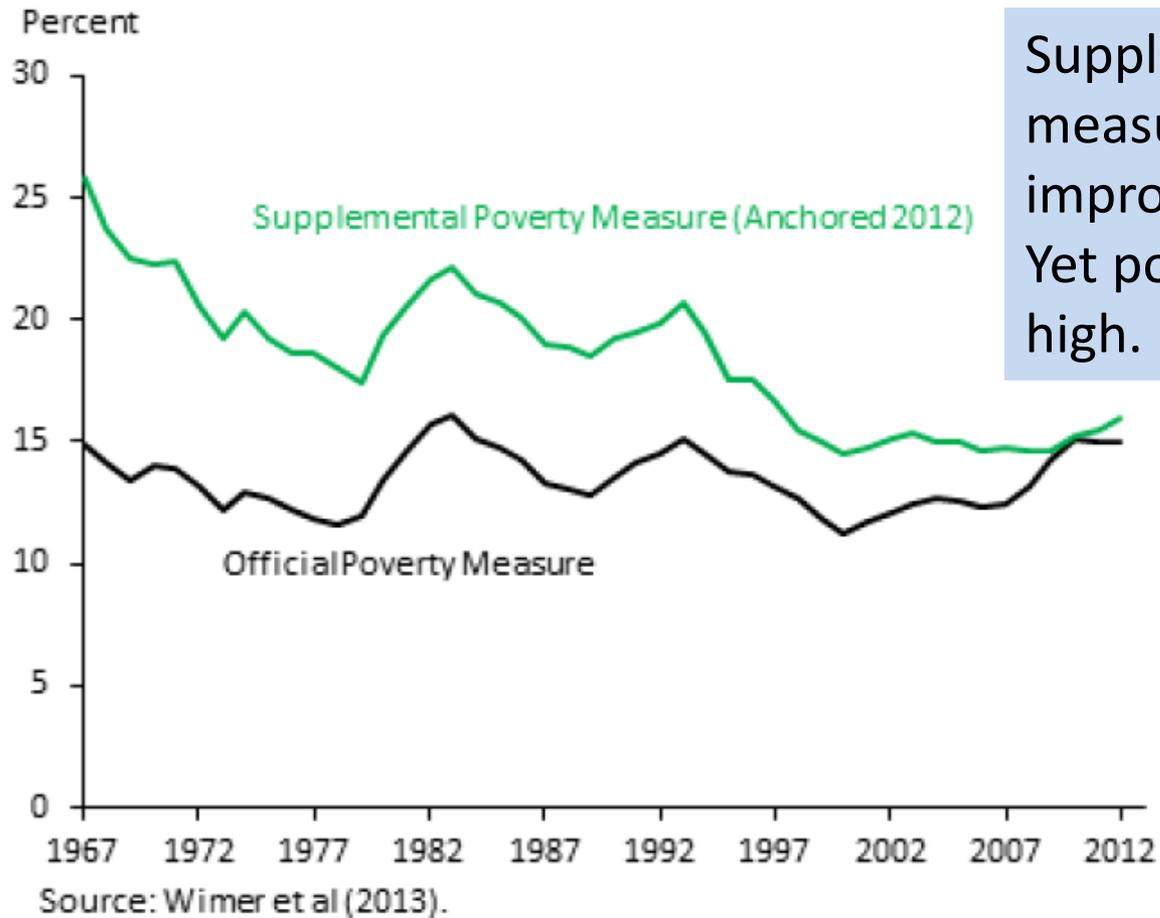
Note: Data on elderly poverty rates unavailable for years 1960-1965.
 Source: Census Bureau, Poverty Division, CPS ASEC Tables 2 and 3.

Limitations of 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
- Not adjusted for regional variation in costs of living (e.g., housing)
- Definition of poverty has not changed since measure developed in early 1960s
- Recent Supplemental Poverty Measure released by Census; addresses these concerns

Figure 4

Official vs Anchored Supplemental Poverty Rates, 1967-2012



Supplemental poverty measure shows improvement. Yet poverty remains high.

2. SNAP and the Social Safety Net

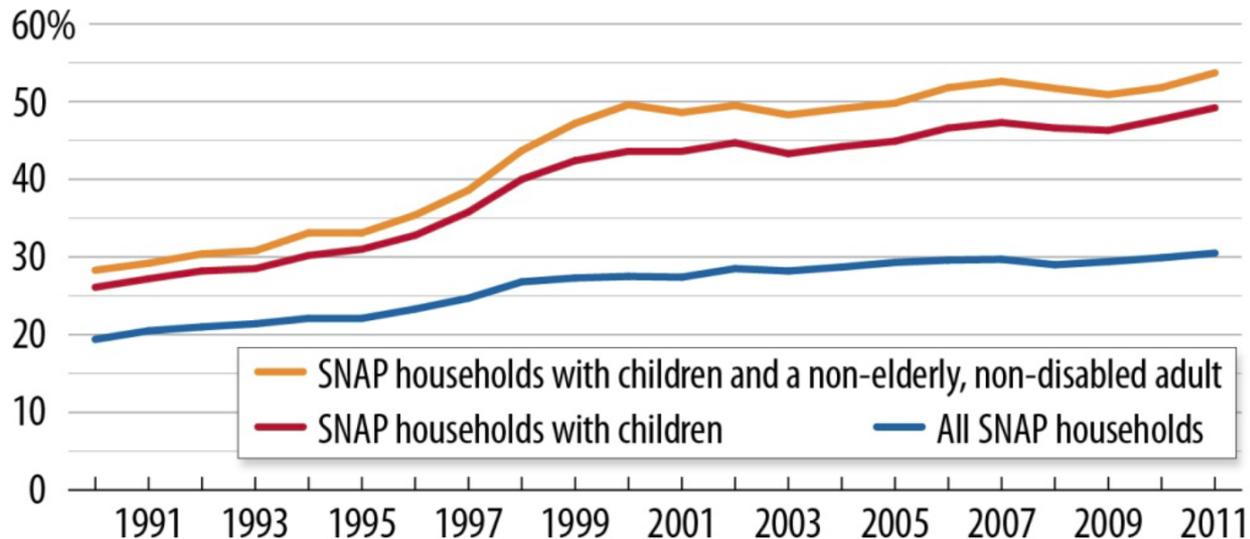
SNAP Eligibility and Benefits

- Means tested: eligibility requires gross monthly income to be below 130 percent of poverty.
- Benefits phased out as income increases
- 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*

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

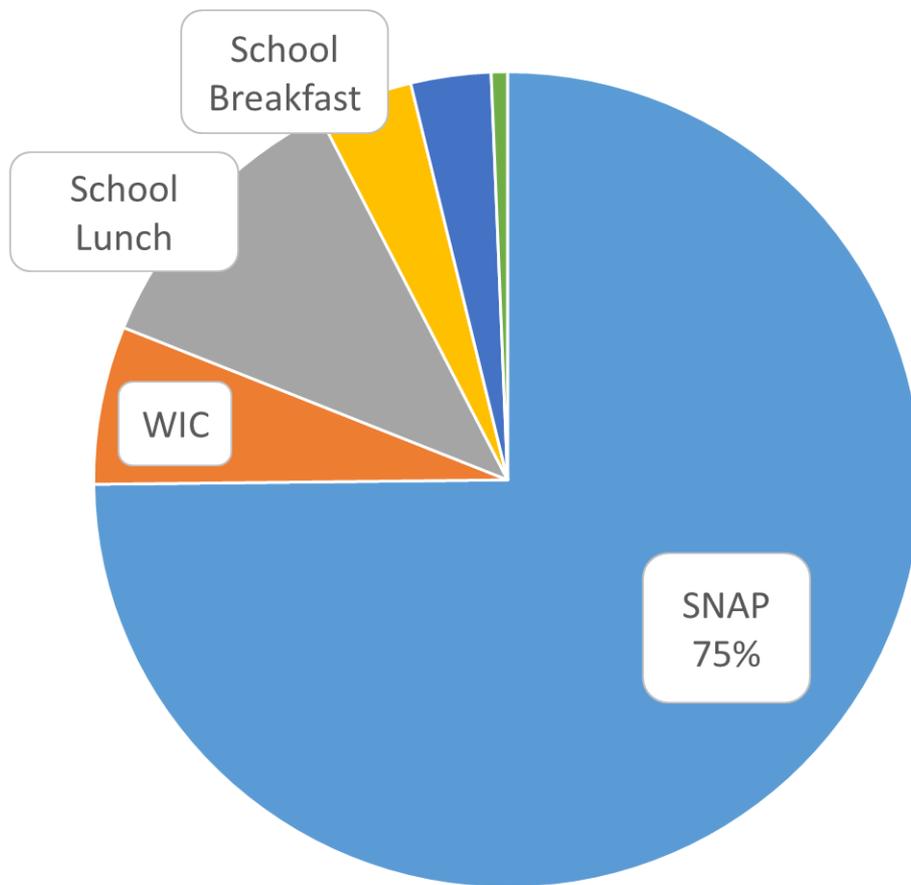


Source: CBPP Tabulations of SNAP Quality Control Household Characteristics data.

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

SNAP is the biggest USDA program

Share of spending by program, 2014



SNAP in the broader social safety net

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

(Billions of dollars)

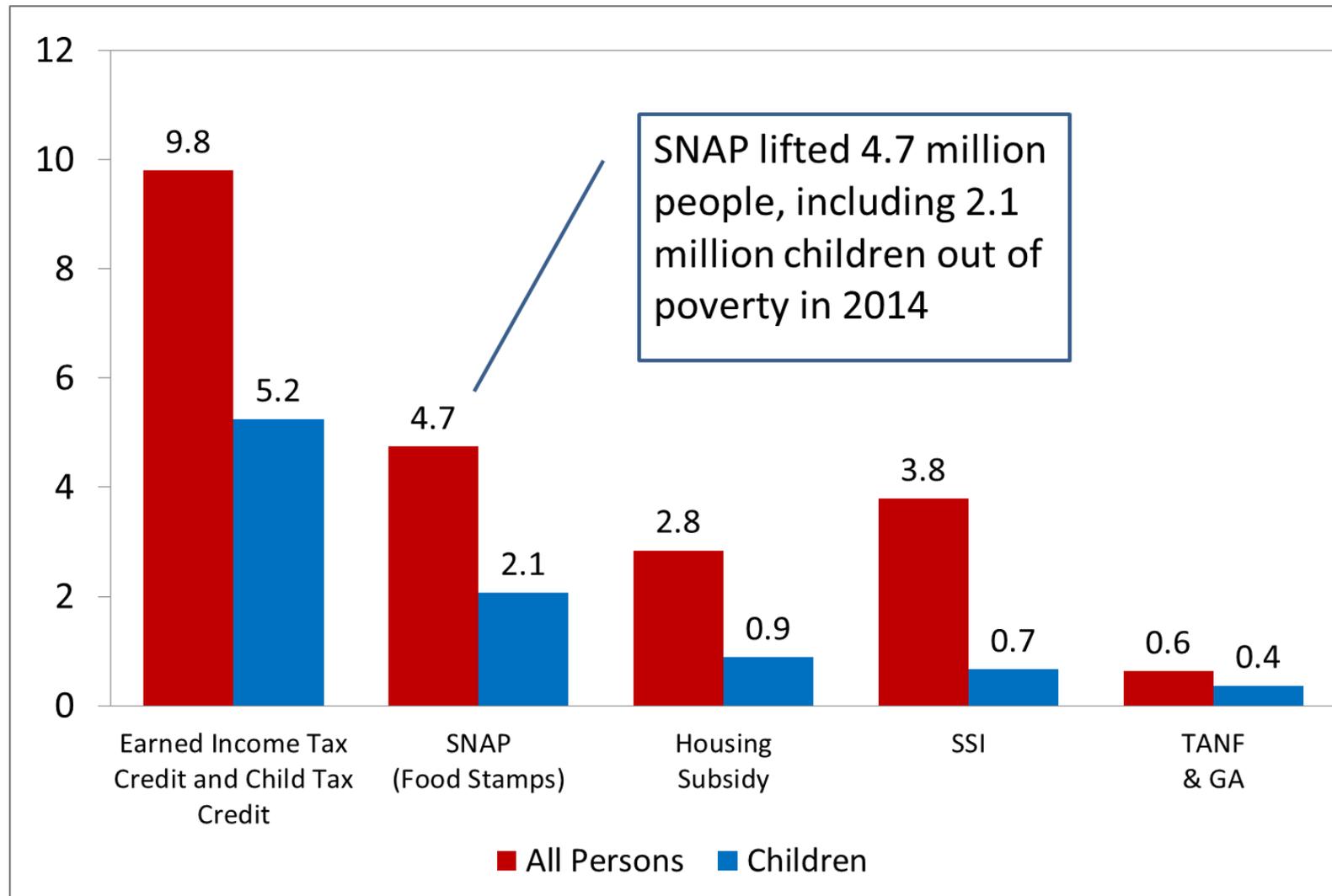


Source: Congressional Budget Office.

3. SNAP is a central element of the safety
net

- SNAP is one of the largest anti-poverty programs in the U.S.
- It is the closest thing to a “universal safety net”
- It plays an “automatic stabilizer role”; it was very important in protecting families in the Great Recession
- SNAP’s importance is rising in part due to stagnant and declining wages for less skilled workers

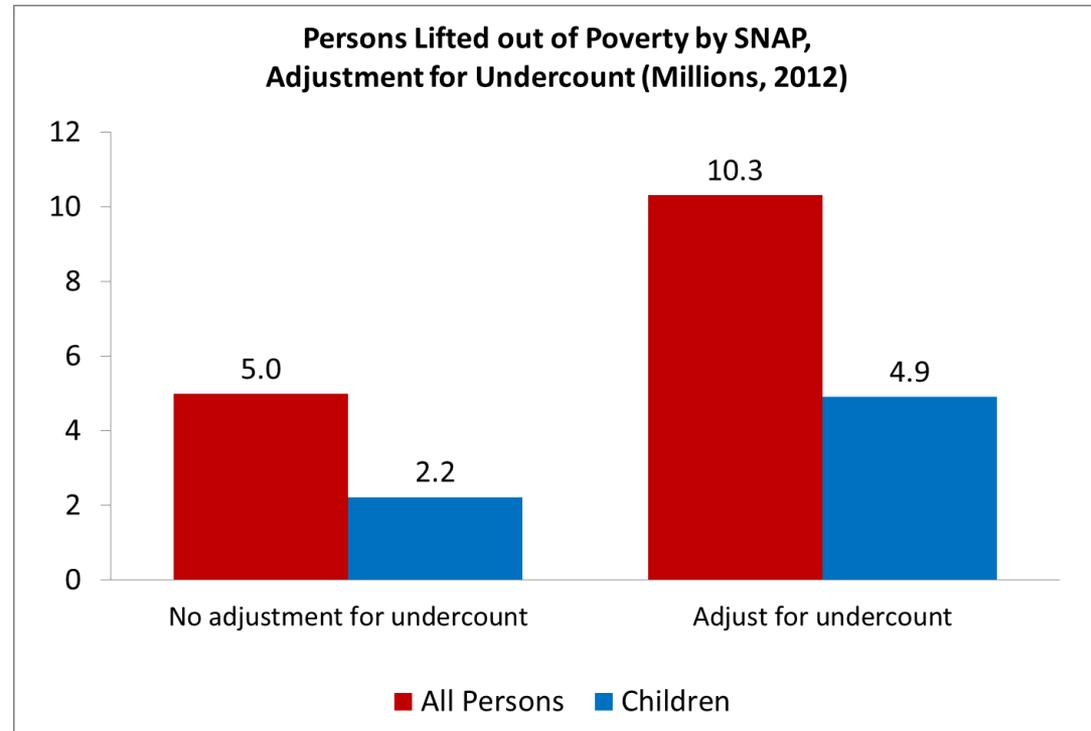
After the EITC, SNAP lifts more children out of poverty than any other program



Source: Calculations based on *Supplemental Poverty Measure, 2015* (Kathleen Short), U.S. Department of Census, Current Population Report P60-254.

These (official) estimates are likely an undercount of the full effect of SNAP

Recent research shows that government surveys for measuring poverty, households underreport their receipt of SNAP as well as other government transfers (Meyer, Mok and Sullivan 2015, Meyer and Mittag 2015)



Source: Calculations based on *Supplemental Poverty Measure, 2015* (Kathleen Short), U.S. Department of Census, Current Population Report P60-254.

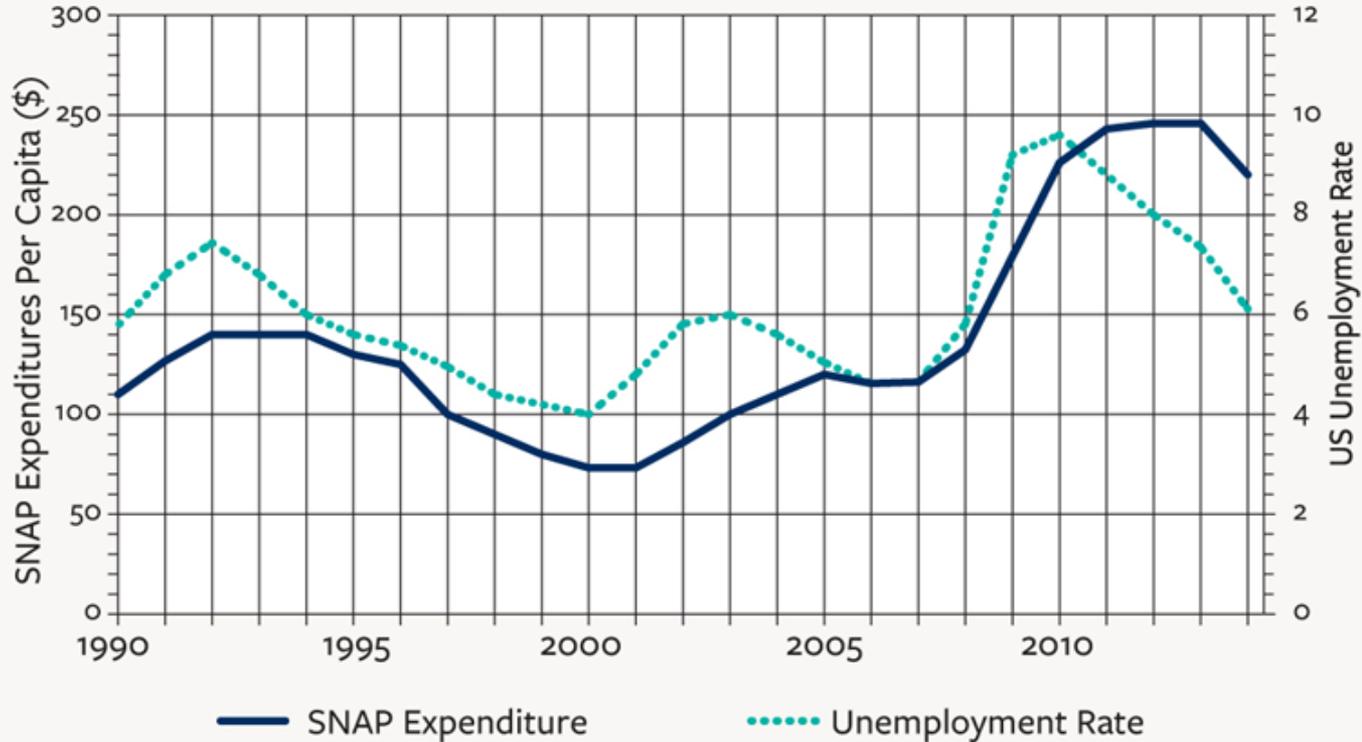
SNAP is the closest thing the U.S. has to a “universal safety net”

- Eligibility is virtually universal (some restrictions for able bodied recipients without dependents)
- Eligibility depends on need (income and asset requirement)

SNAP played a big role in protecting families in the Great Recession

- More generally, SNAP is an entitlement, not block granted, so responds to need; automatic stabilizer role

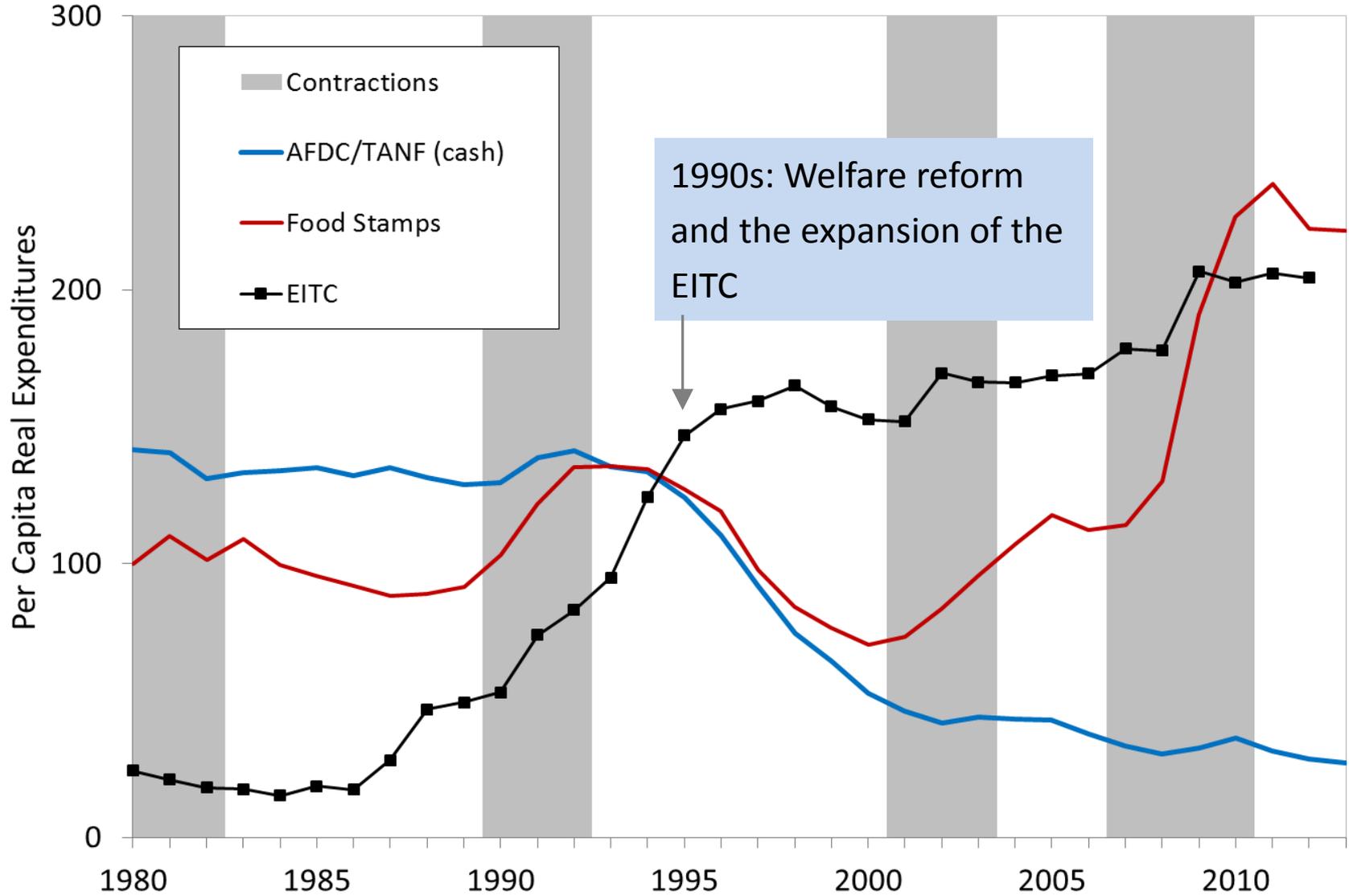
SNAP Expenditures Closely Follow Economic Cycles



Source: Authors' tabulations of USDA and Census data.

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)

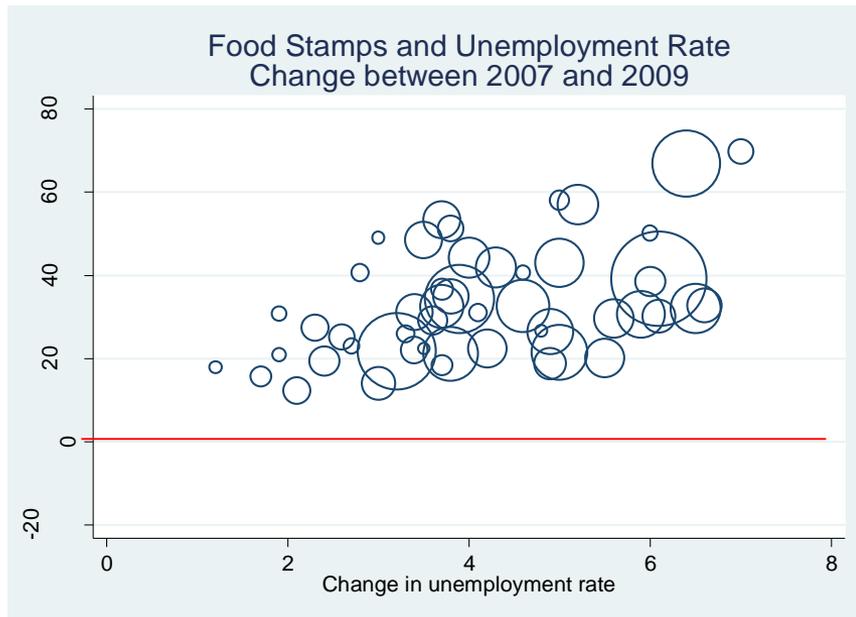


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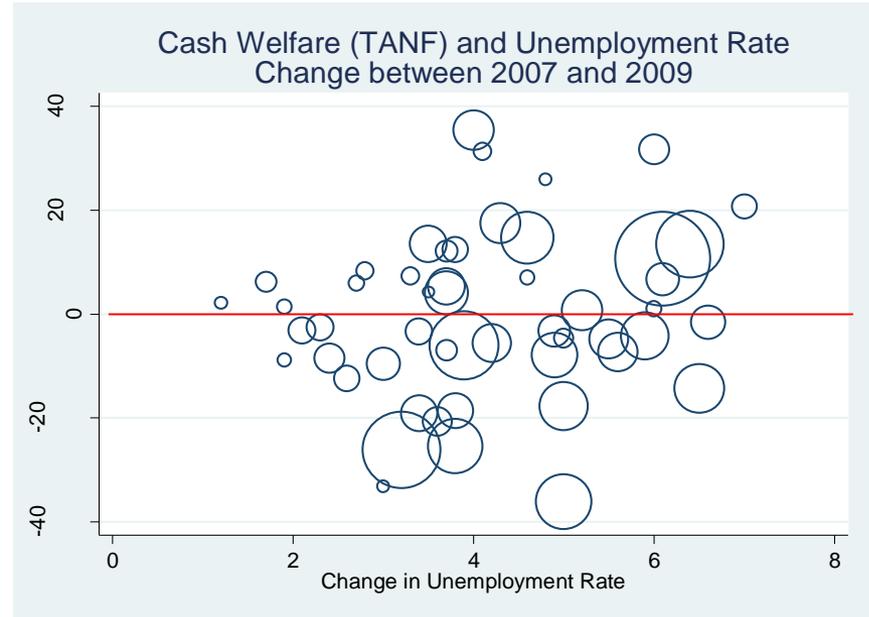
Safety Net Response to the Great Recession

2007-2009 change in state unemployment rate vs change in safety net

(a) SNAP



(b) TANF



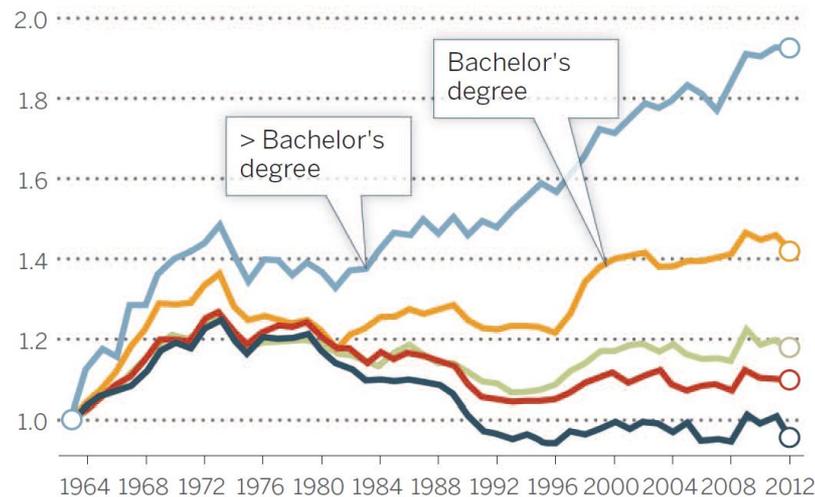
Given wage stagnation/declines for less skilled workers, there is increasing need for the social safety net to supplement earnings to maintain family income levels.

SNAP and the EITC are central here.

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

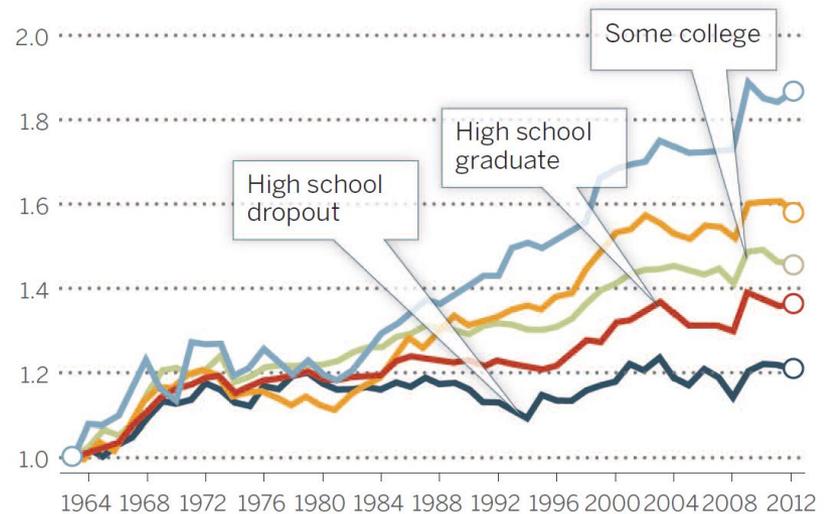


Fig. 6. Change in real wage levels of full-time workers by education, 1963–2012. (A) Male workers, (B) female workers. Data and sample construction are as in Fig. 3.

4. SNAP (and the social safety net) as an investment

Sidebar – why causal identification is difficult with SNAP

- 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.

SNAP and Food Insecurity

- Fairly consistent evidence that SNAP reduces food insecurity
- Comparisons of the same family pre- and post-SNAP take-up (Mabli et al 2013, Mabli and Ohls 2015)
- Variation in state implementation policies that generates differences in take-up across states over time (Mykerezzi & 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).

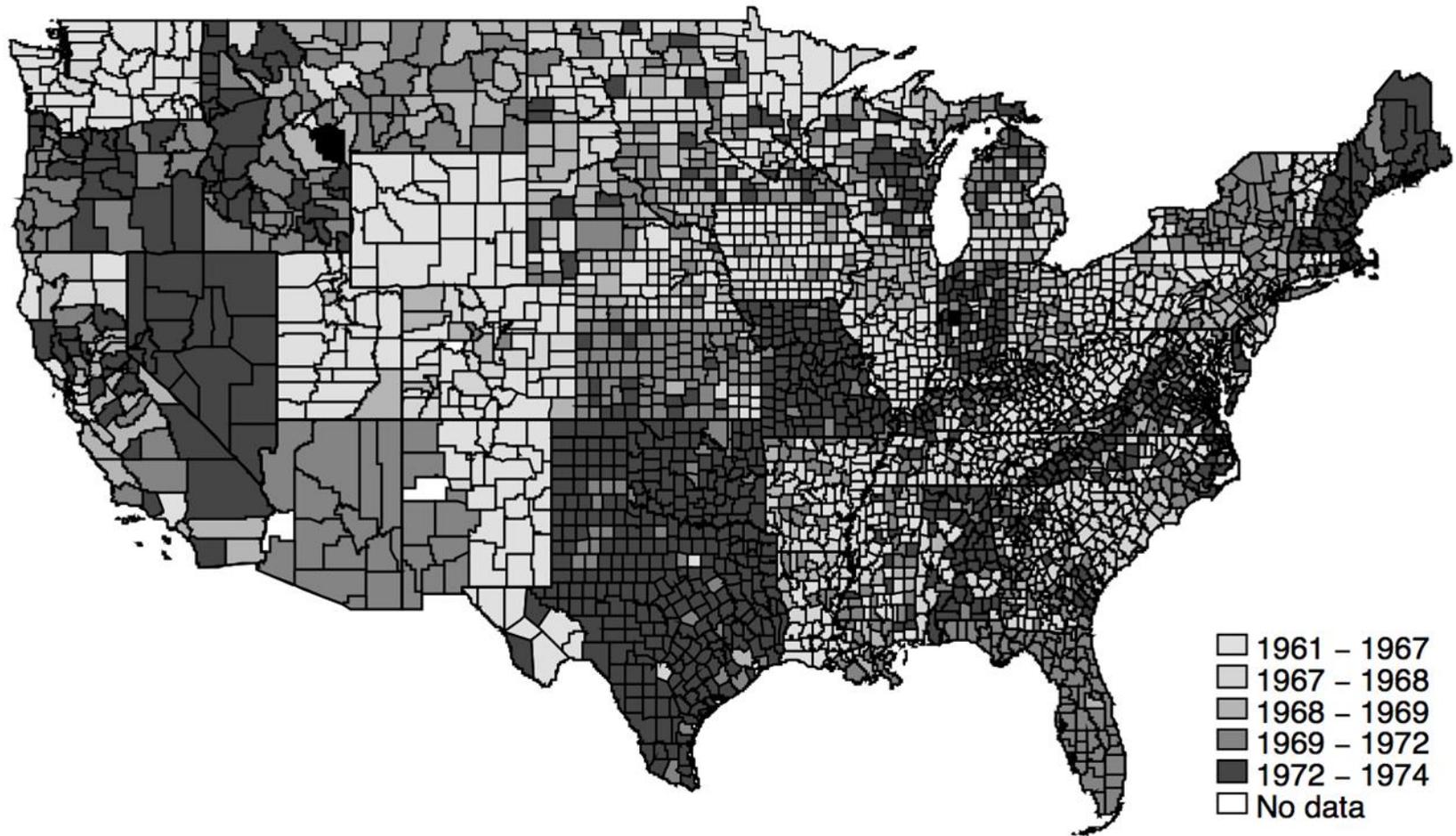
- There is a new and growing literature that seeks to quantify the medium and longer term effects of the social safety net
- Particularly the link between access to the safety net in childhood and adult health and economic outcomes

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 Stamp Rollout and Infant Health

Almond, Hoynes and Schanzenbach (2011)

- Use initial rollout of the Food Stamps (1961-1975) to estimate the effects of the food stamps on infant health
 - Birthweight, incidence of low birth weight, 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
- Why might food stamps matter?
 - Hoynes and Schanzenbach (2009) shows that food stamps increase family resources, and that households react similarly to food stamps as they do to cash transfers
 - So we may be capturing effects of income, but also conclude that one important channel is increases in food and nutrition

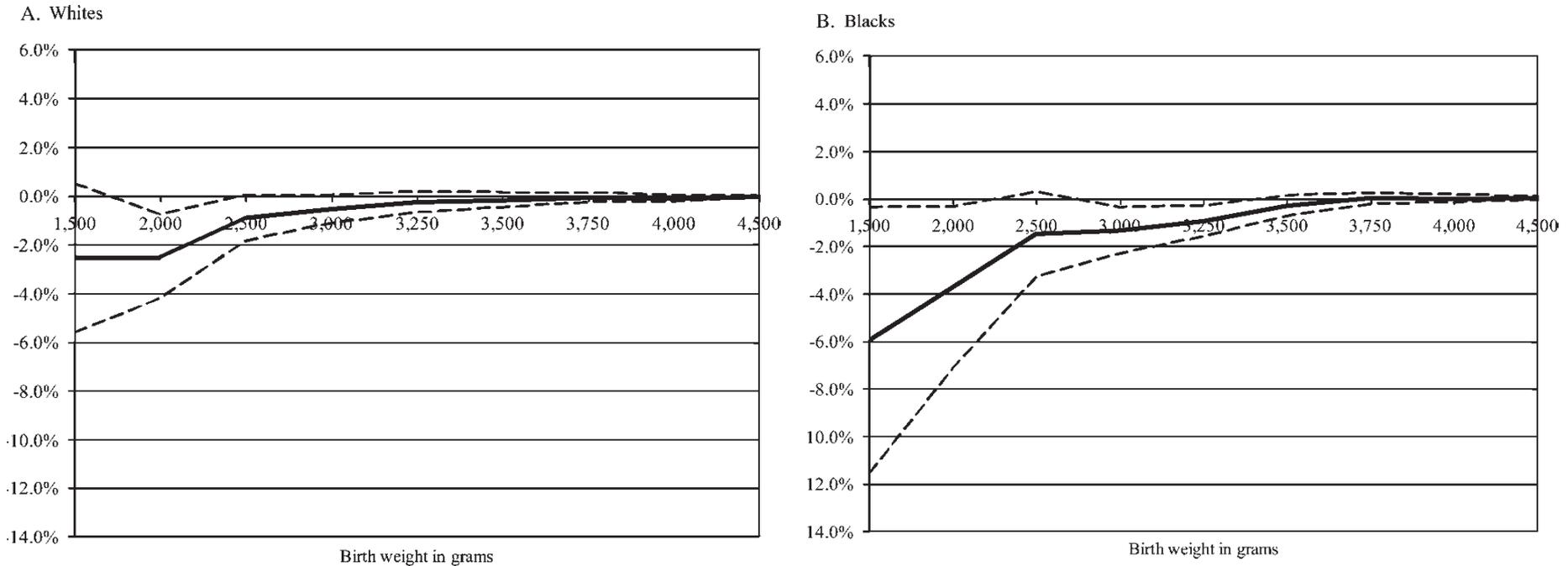
Food Stamp Rollout and Infant Health

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

Effects of food stamps implementation on the distribution of birthweight

Percentage Impacts (Coefficient / Mean)



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

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.
- Again, 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)

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)

What we do

- Use Panel Study of Income Dynamics
 - Data on economic outcomes, health conditions, general health status, and disability. Allows for measurement of metabolic syndrome.
 - Restricted use data allows for measurement of county of birth for cohorts affected by introduction of FSP.
 - Sample includes those heads and wives born between 1956-1981, measured at ages 18-53 (24-53 for economic outcomes)
- Caveat: these folks are still pretty young (early 50s); we may be capturing a delay in onset

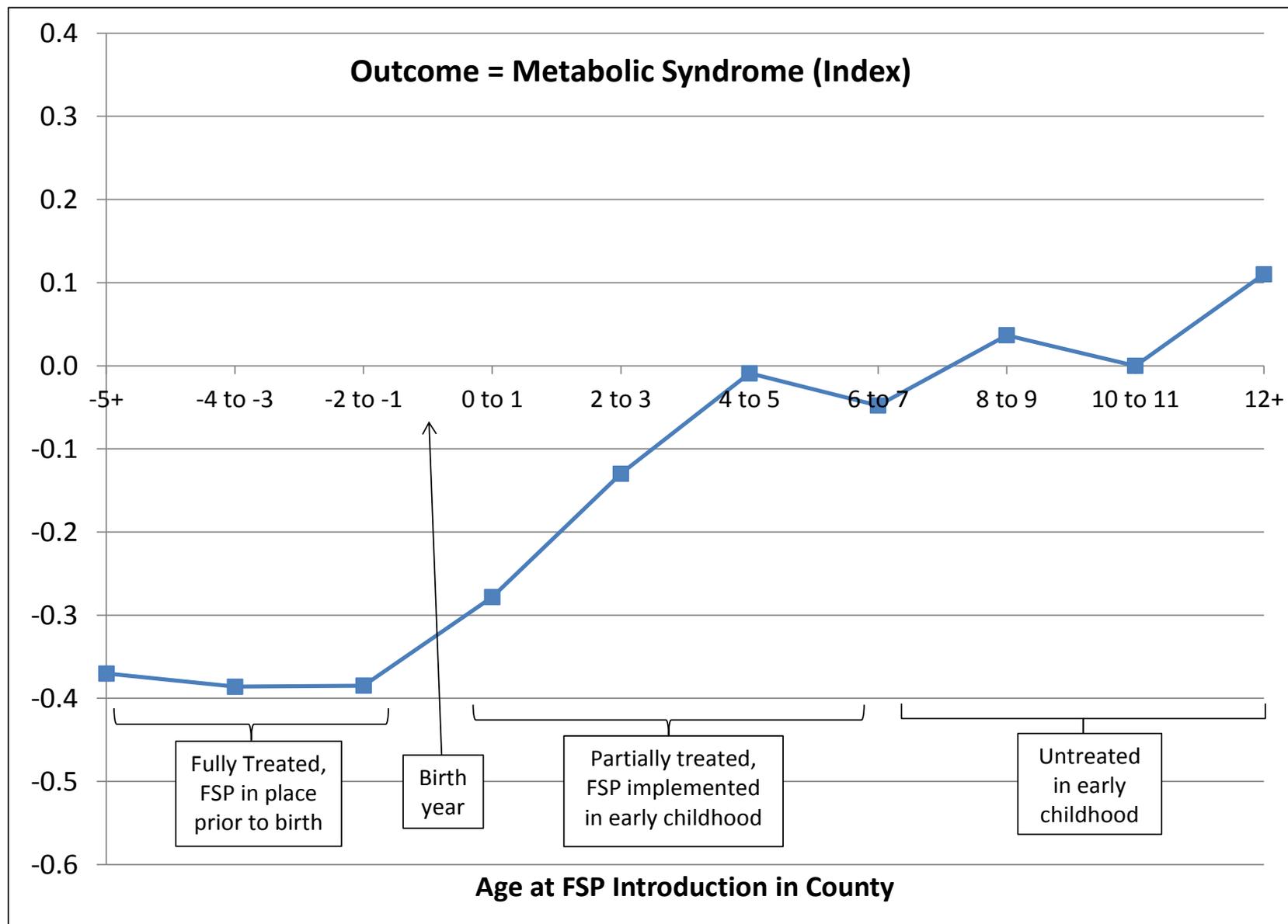
Metabolic
Syndrome

- 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



Source: Hoynes, Schanzenbach and Almond, *American Economic Review* Forthcoming.

Key result: Food Stamps in childhood and adult metabolic syndrome

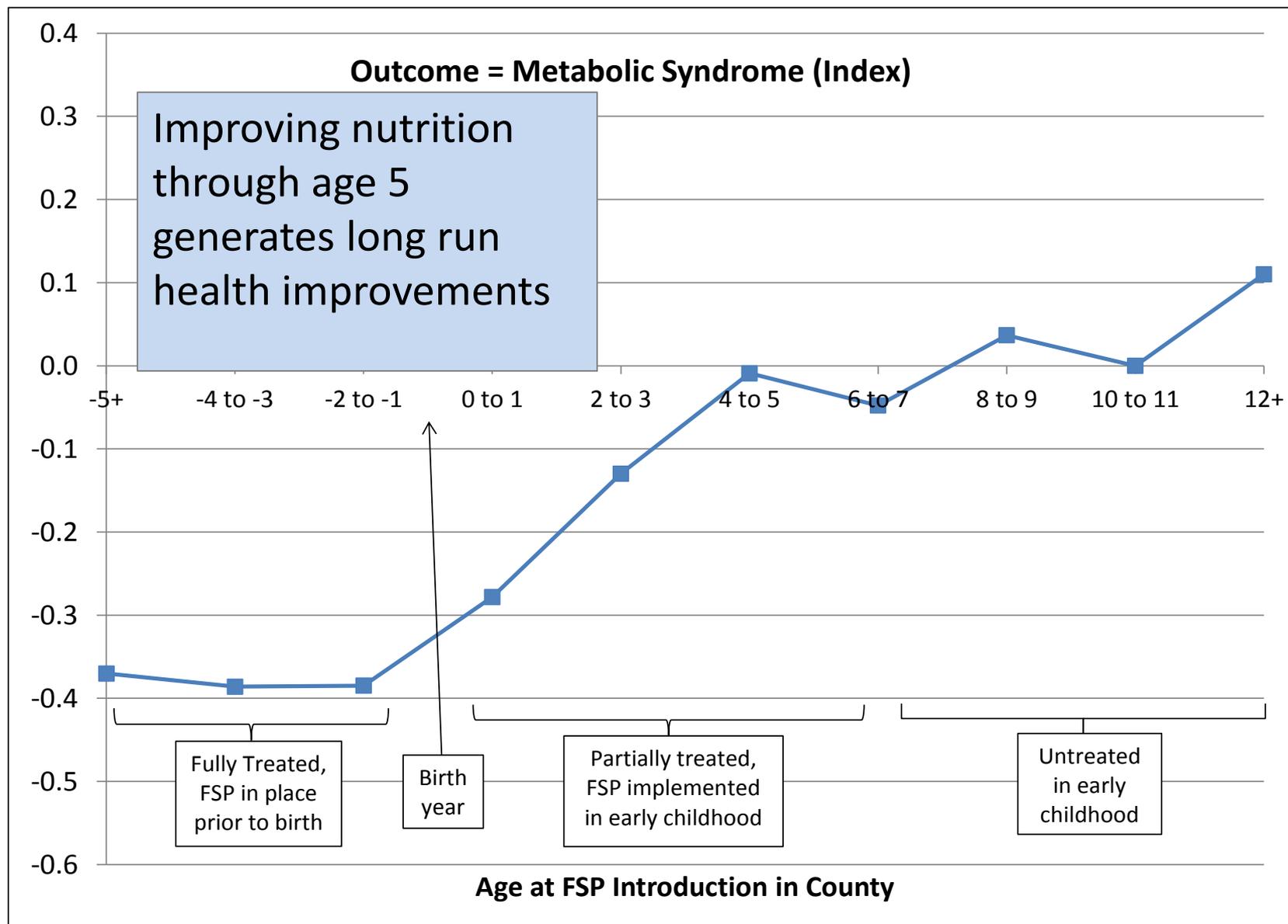
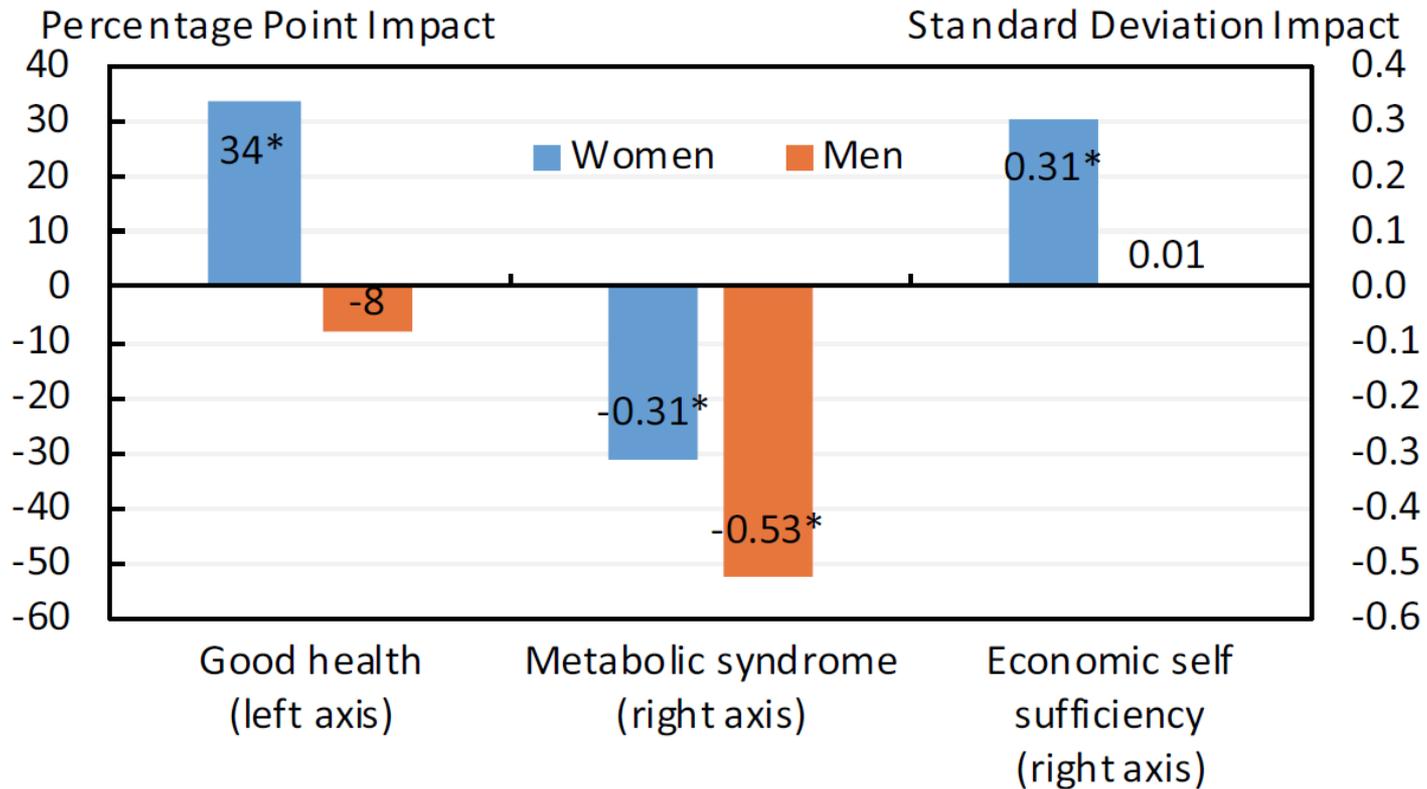


Figure 12: Long-Term Impacts of Exposure to Food Stamps as a Child



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)

Other studies on SNAP as an investment

- East (2015) uses variation in immigrant access to food stamps as a result of welfare reform and finds that additional childhood exposure to food stamps (between ages 0-5) leads to a reduction in poor health and school absences in later childhood.

Zooming out: Other studies on the safety net as an investment

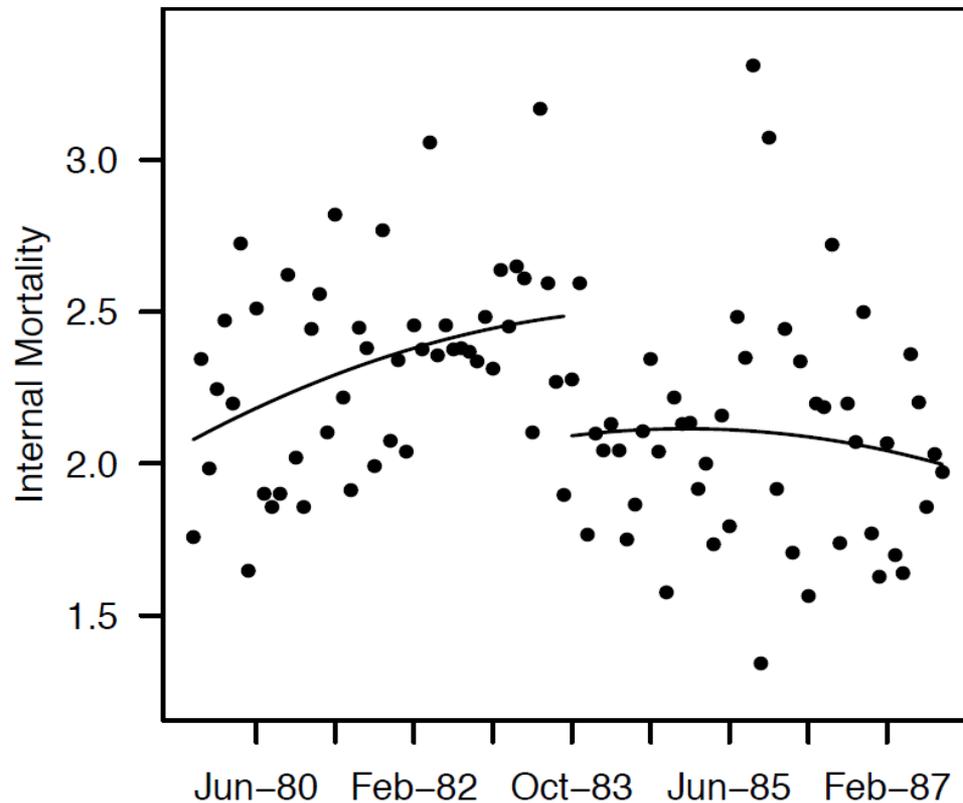
- As with our work, these studies examine the effect of childhood exposure to the social safety net on adult health and economic outcomes
- Much of this work is facilitated by quality administrative data and credible quasi-experimental research designs leveraging policy changes over prior decades

Medicaid

- Major increase in health insurance among children, through expansions to Medicaid and CHIP in the 1980s and 1990s. 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)

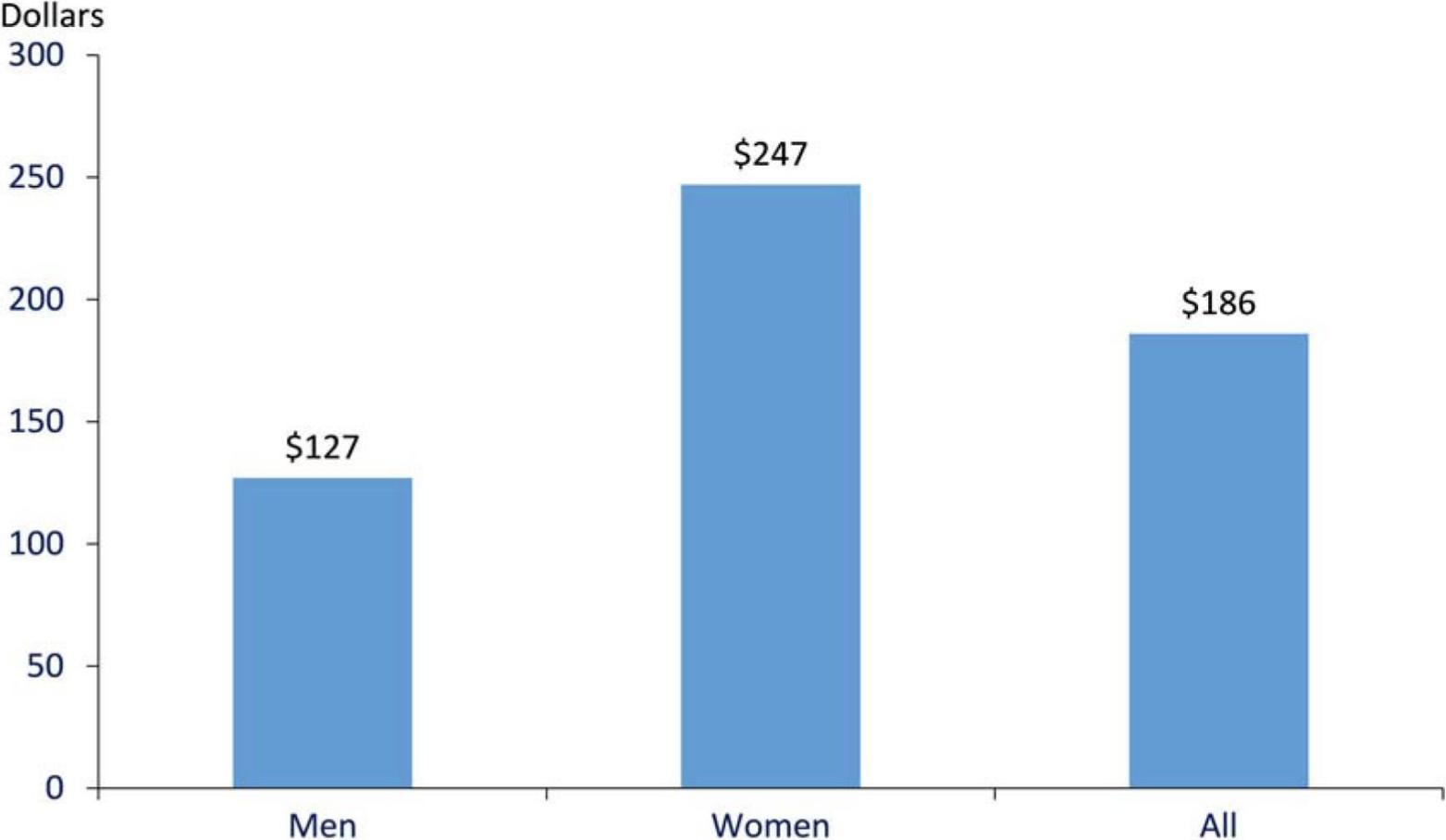
Child Mortality from Internal Causes

Black, Ages 15–18



Those born after Oct 1983 triggered large Medicaid coverage gains through the policy expansions in the 1980s and 1990s.

Increase in Income and Payroll Taxes Paid Through Age 28 from an Additional Year of Medicaid Eligibility in Childhood



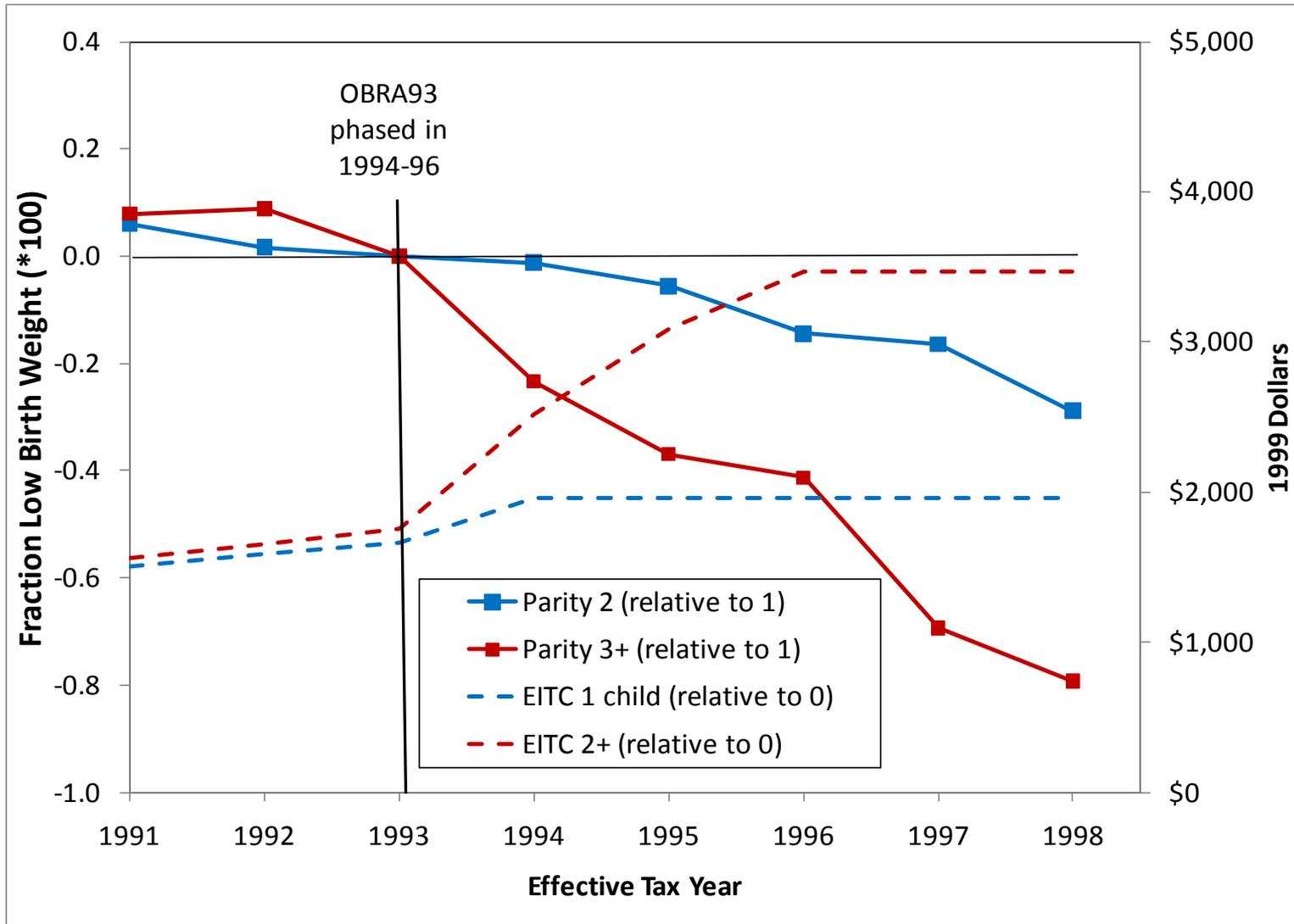
Source: Brown, Kowalski, and Lurie (2015).

Note: Cumulative tax payments based on earnings through age 28.

Earned Income Tax Credit

- Large expansions in the EITC in the mid 1990s led to increases in income and maternal employment. They also led 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 (Dahl and Lochner 2012, Chetty et al 2011)
 - Increases in educational attainment (Michelmore 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.

Conclusions

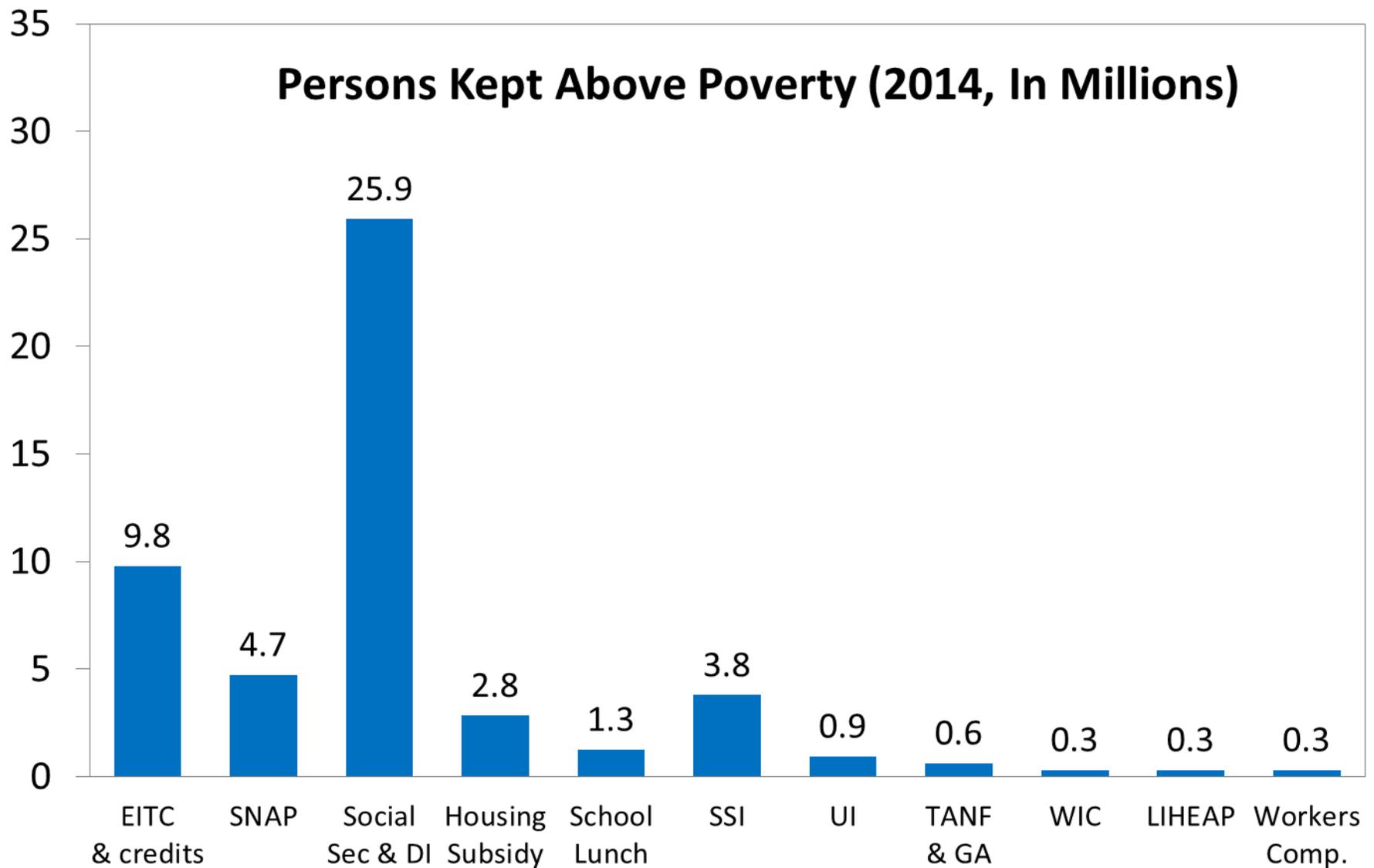
- Food stamps is a central element of the safety net
- Our primary evaluations on the efficacy of the safety net focus on labor supply and poverty
- Yet increasing incomes at bottom of the distribution may generate substantial benefits to children and families that, to date, have not been explored
- The work summarized here shows that there are economically important improvements in health, both contemporaneous and in the longer term
- It implies that benefits of safety net are broader than previously thought. Positive external benefits to taxpayers.
- This work is still in its infancy, and there is much more to learn

Other projects I are working on

- *Bailey, Hoynes, Rossin-Slater, Walker*: Census & ACS merged with SSA data on place of birth. Estimating effects of childhood exposure to food stamps to adult human capital and labor market outcomes
- *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.

EXTRA SLIDES

Persons Kept Above Poverty (2014, In Millions)



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

SNAP and food consumption

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- Hoynes and Schanzenbach *AEJ Applied* 2009 shows that SNAP is close to cash, households are infra-marginal
 - Because most recipients receive a Food Stamp benefit below their normal food expenditures, the program is similar to an income transfer
- Implications to evaluating the benefits of SNAP:
 - First stage → increase in income
 - Nonetheless, because recipients were by definition poor, a large portion of FS is spent on food. Thus we expect that one channel for health gains would operate through improvement in nutrition

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

Food Stamp policies going forward

1: *Reduce the price of healthy foods*

- Massachusetts Healthy Incentive Pilot: A 30% bonus for purchasing fruits and vegetables led to a 25% increase in consumption of healthy foods
- Bonus incentives at farmer's markets

2: *Restrict the food bundle*

- Could jeopardize the core income support features of the program

3: *Increase the price of unhealthy foods?*

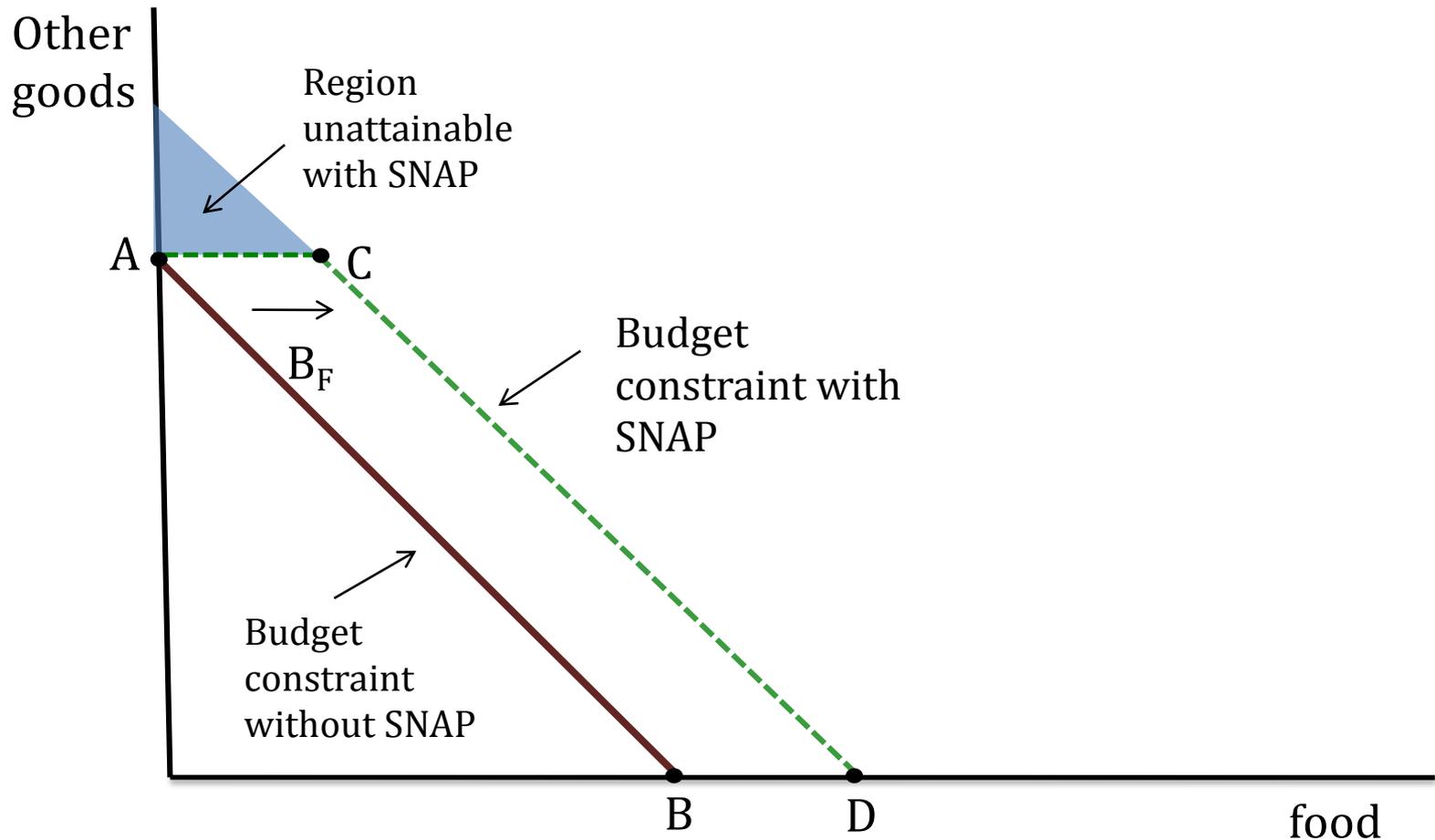
- Soda Taxes? Berkeley Measure D (!!)

Stress as alternative pathway

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- 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)

SNAP shifts out budget constraint



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