The Future of Fiscal Policy: American Economic Policy Debates in the 21st Century

EITC, the Safety Net, and Universal Basic Income

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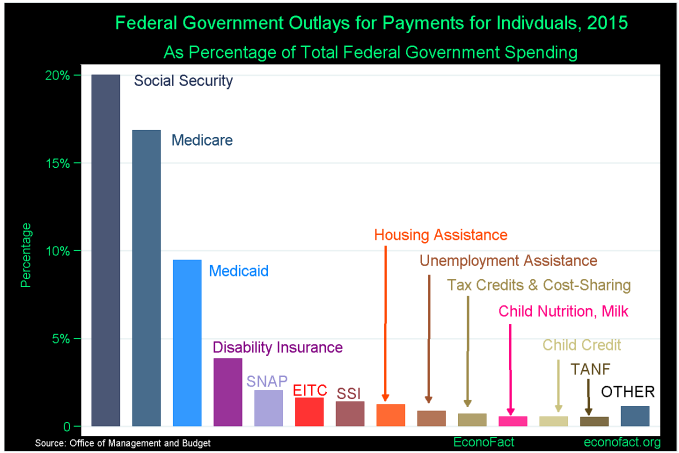
Thanks to Raj Chetty, Manasi Deshpande, Hillary Hoynes, Illyana Kuziemko, and Emmanuel Saez for sharing notes/slides, much of which are reproduced here. Stephanie Kestelman and Francesco Ruggieri provided excellent assistance making these slides.

Outline

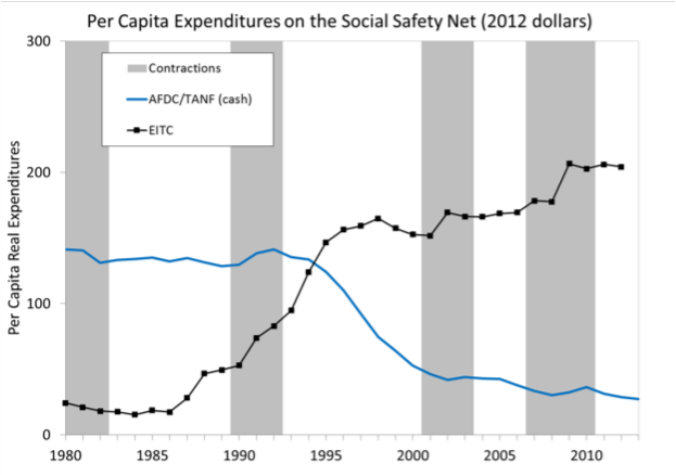
Outline

Federal spending by program type



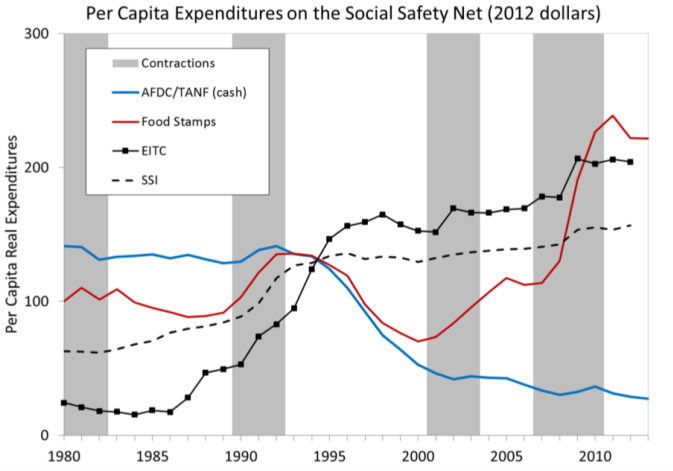
Source: Melissa Kearney.

Safety net and the recession



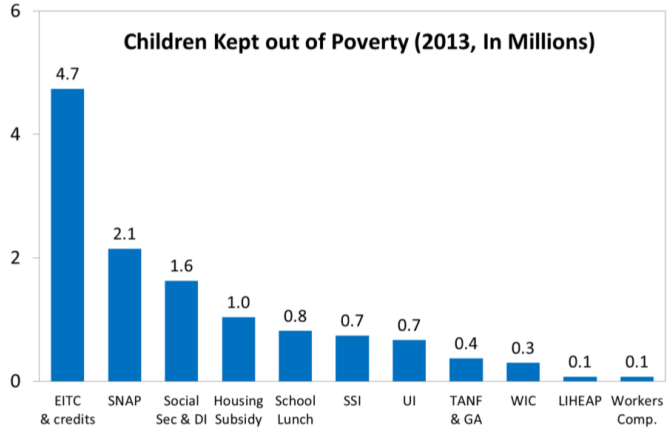
Source: Hillary Hoynes.

Safety net and the recession



Source: Hillary Hoynes.

Programs for low income families



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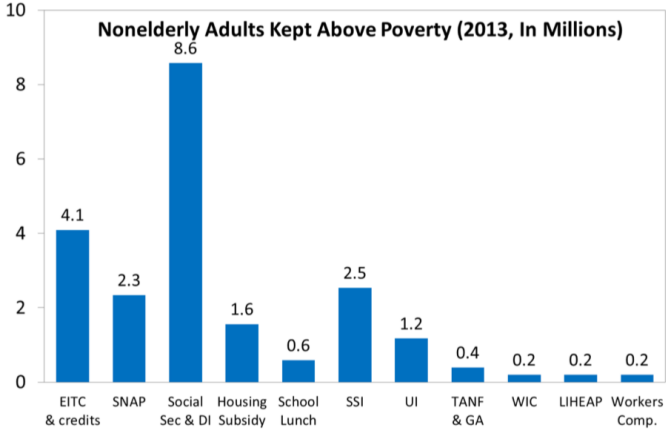


Source: Hillary Hoynes.

Some Current Policy Proposals

Many proposals to expand the EITC:

- Harris LIFT the Middle Class proposal - $200B per year
  - $3K max for single HHs, $6K max for married HHs
  - Earners without children are eligible
  - EITC paid throughout the year
- Brown-Khanna Proposal - $1.4T over 10 years
  - Expand EITC for all fam types, including big expansion for childless HH
  - Max increases to $6,528 for HHs w/ kids and $3,400 for those w/o kids
  - Reduce minimum age to 21 for childless workers
- Obama Admin Plan to Help Middle-Class and Working Families - $60B over 10 years
  - Similarly reduce minimum age to 21
  - Double maximum childless EITC to $1K
  - Childless EITC phases out at $18K

Others are advocating for universal basic income

Brief History

Brief history

- Founding Fathers heavily influenced by John Locke, freedom *from* government, sanctity of private property.
- Hamilton v. Jefferson.
  - Hamilton wanted a stronger central government that could provide public goods (e.g., canals, banks) to promote economic development.
  - Jefferson's idea of the yeomen farmer ideal. He and Madison felt provision of public goods beyond proper powers of government.
- Early 19th century
  - US is largely a decentralized, agrarian country.
  - Even some of the most famous public goods (e.g., Erie Canal and railroads) were funded by *state* governments and private companies.
  - States outside the Confederacy began "public" school systems (and used public-goods-type justifications), but often charged tuition.

Source: Illyana Kuziemko.

Civil war and Gilded Age

- The pro-public-goods-investment debate had regional tones, so once Confederacy left the Unions, Congress passed public education bills (e.g., Land Grant Act).
  - A condition of rejoining the Union was establishment of public elementary education.
  - By 1900, dawn of the (public) "high school movement" when US pulls far ahead of Europe in terms of educational attainment.
- Teddy Roosevelt.
  - Introduced a new role for government: policing the modern economy. Broke up trusts.
  - Pushed for public goods investment (e.g., Panama Canal, a *federal* project).

Source: Illyana Kuziemko.

The Great Depression (birth of U.S. social insurance)

- U.S. begins to catch up with Germany, UK.
- With 25% unemployment, consensus government "must do something"
- From left, a push to extend the role of government. Even from right, a push to provide relief to ward off communism.
- A unprecedented role for government:
  - Forced 'bank holiday.'
  - Birth of Social Security, SEC, ADC ($\Rightarrow$ AFDC, TANF), min wage.
  - Ditching the gold standard
  - Alphabet Soup of emergency programs:
  - Employment: PWA (Triborough Br., Lincoln Tunnel, e.g.); WPA (assortment of jobs).
  - Regulation: NRA (wage, hours, price controls; declared unconstitutional).

Source: Illyana Kuziemko.

World War II

- Need for huge increase in government revenue, led to major tax reform
- Nearly 20 million Americans served in World War II. Many services (child care, income maintenanced) provided by government for their families. GI bill upon their return.
- Similar to European countries' reaction to WWI ('a country fit for heroes').
- Fear that Great Depression would return made feds wary of cutting spending.
- During Eisenhower years, huge increase in Social Security generosity, no attempt to roll back the New Deal.

Source: Illyana Kuziemko.

Civil Rights, Great Society

- Civil Rights and Voting Rights (1964, 65) important inflection point.
  - On the one hand, made the electorate more supportive of redistribution.
  - On the other, split the Democratic Party, the redistributive party.
- While viewed as a time of prosperity, poverty rates very high in the 1950s by modern standards (among elderly, likely 30-40 %).
- LBJ's 'Great Society' and 'War on Poverty'
  - Medicare and Medicaid (1965).
  - Codified eligibility for AFDC (rules replaced discretion).
  - Elementary and Secondary School Act: Title I, Head Start.
  - Food Stamp Act (1964) makes program permanent.

Source: Illyana Kuziemko.

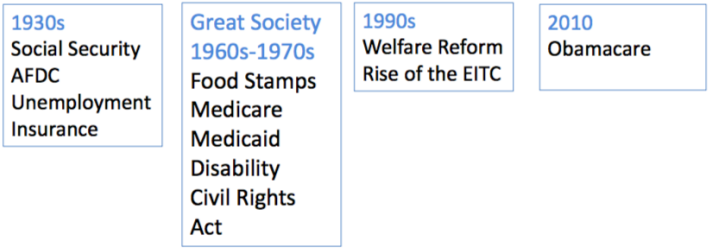
Through today

- Tax rates fell continuously since 1960s.
- Only minor extensions of social insurance programs (especially compared to similar countries) through 2010.
- Welfare reform in 1996
- Medicaid expansions in 1980s and 1990s (CHIP, 1997).
- Medicare prescription drug coverage (2003).
- Affordable Care Act (2010): most redistributive policy since the 1960s.
- Extends Medicaid to *all* citizens under 133% of FPL
- For those above 133 FPL but without employer insurance (the working poor), means-tested tax credits in state exchanges.

Source: Illyana Kuziemko.

Current policies

Evolution of Antipoverty programs in the U.S.



Source: Hillary Hoynes.

	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

Source: Hillary Hoynes.

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:

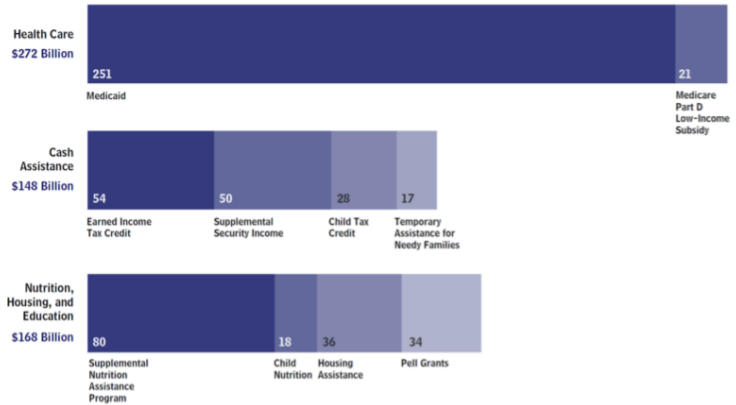
- Eligibility depends on current needs
- Benefits "phased out" as income increases
- Eligibility often categorical

Source: Hillary Hoynes.

Figure 2.

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

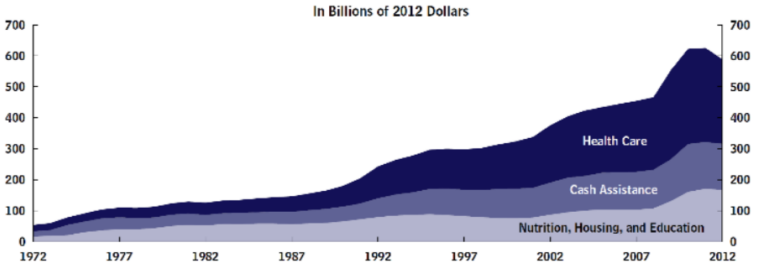
(Billions of dollars)



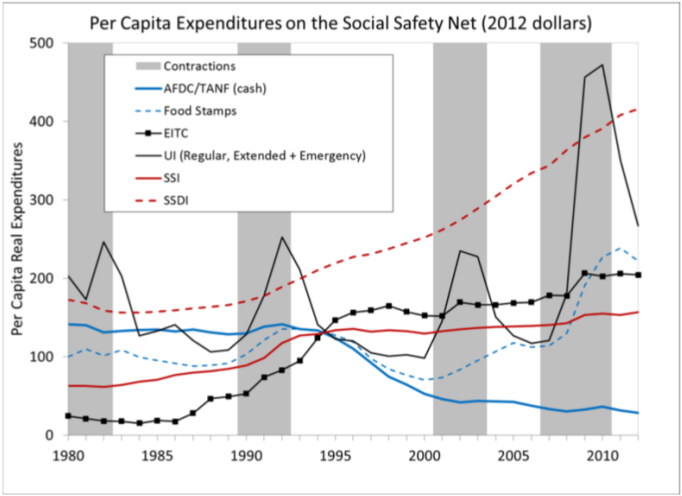
Source: Congressional Budget Office.

Source: Hillary Hoynes.

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



Source: Hillary Hoynes.



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*.

Source: Hillary Hoynes.

Moffitt *Focus 2007*
80 largest programs, Federal and State Spending

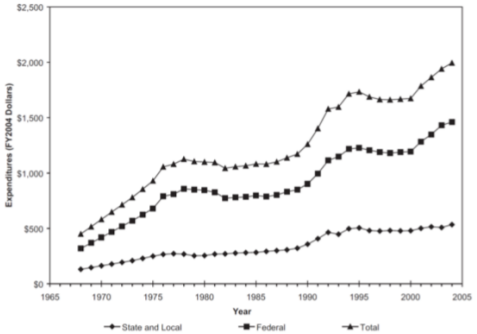


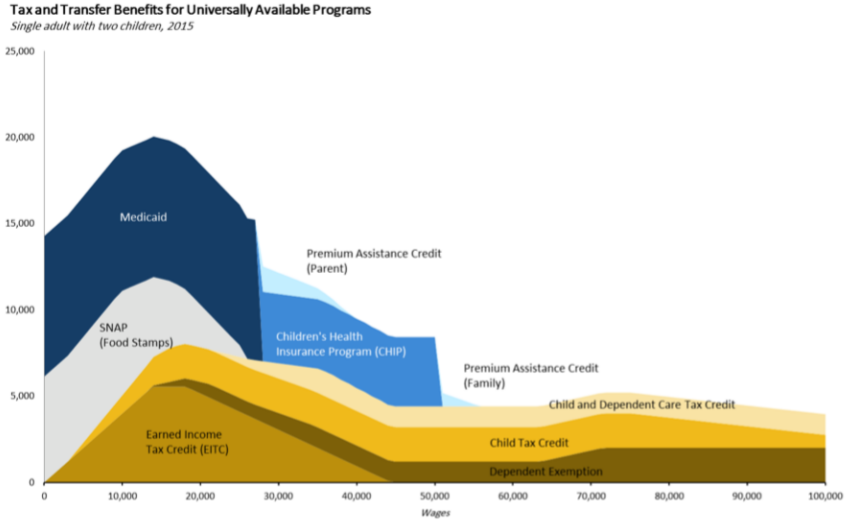
Figure 1. Real per-capita expenditures on means-tested transfers, 1968–2004.

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).

Anti-Poverty spending is increasing.
Aggregate masks different trends by program

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

Source: Hillary Hoynes.



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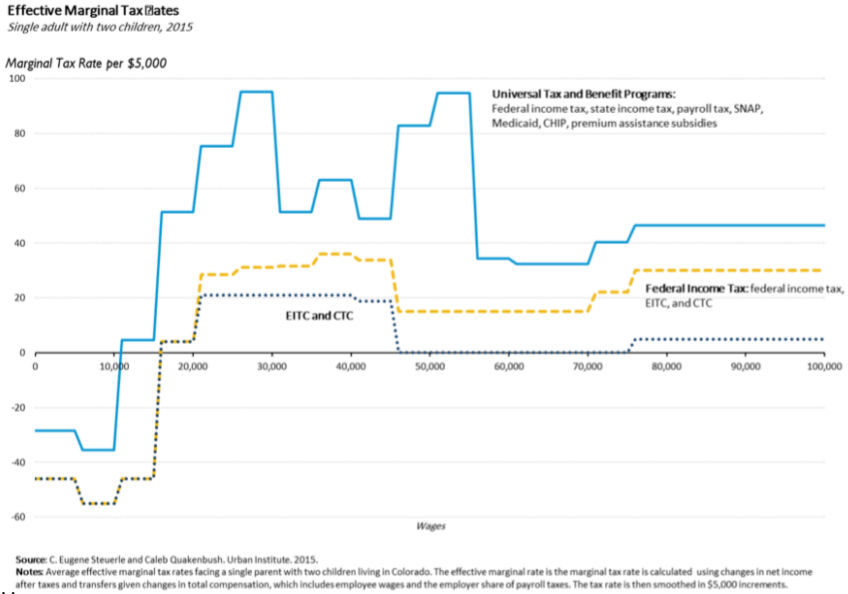
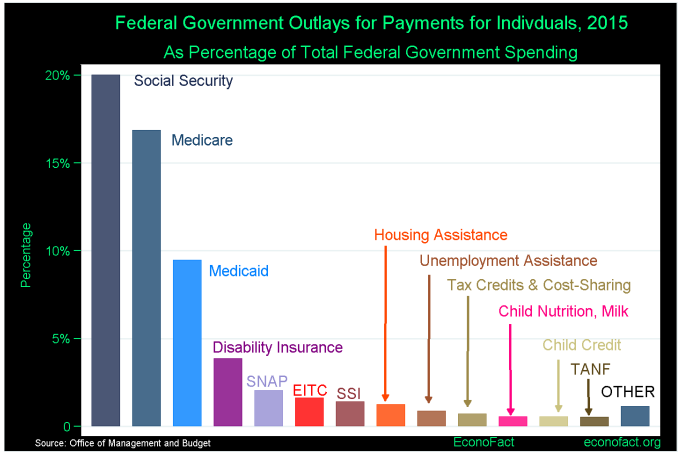


Source: Hillary Hoynes.

Federal spending by program type



Source: Melissa Kearney.

Major *means-tested* transfer programs

- Medicaid
  - By far largest in terms of budget (nearly $400 billion).
  - Typical Medicaid recipient a child, but most money spent on the elderly ("dual eligibles").
  - Feds cover roughly 65 percent of costs.
- Disability
  - For those disabled after accruing sufficient work history.
  - Federal program, $128 billion in 2011.
- Supplemental Security Income (SSI)
  - Disabled before ever working (physically and mentally disabled).
  - Federal program, roughly $53 billion in 2013.

Source: Illyana Kuziemko.

Major transfer programs (cont)

- Supplemental Nutritional Assistance Program (SNAP, "Food stamps").
  - Income limit roughly 130% of FPL.
  - Benefits: $Max - 0.3 \cdot Y$. Ex: Family of 3 making \$1,000 a month. Benefits = $\$511 - 0.3 \cdot \$1000 = \$211$.
  - Voucher to spend on any approved food item.
  - Huge increase in both eligibility and *take-up* (participation conditional on eligibility): \$35 to \$80 billion from 2007 to 2013.
- Earned-income tax credit
  - A *refundable* tax credit conditional on employment and income limits (more detail later)
  - In 2011, \$68 billion (fed) plus (roughly) \$12 billion (state).

Source: Illyana Kuziemko.

Major transfer programs (cont)

- Temporary Assistance to Needy Families ('welfare')
  - Provides cash assistance (29% of cost), child care support, job training to eligible households.
  - Total spending of $33 billion (55% fed)
  - Eligibility varies by state but roughly $600 max monthly income for a family of three (very poor).
  - Work, education or job training requirements post-1996.
  - Lifetime limit of five years (as of 1996, no longer an 'entitlement').
- Public housing
  - Roughly one-third on public housing projects and the rest on "Section 8" vouchers (to use in private market).
  - Total cost of about $40 billion.

Source: Illyana Kuziemko.

For basis of comparison, spending on other key programs

- Medicare
  - Projected 2014 spending of $592 billion.
- Social Security
  - Spending in 2013 of $814 billion.
- Defense
  - in 2013, $643 billion.

Source: Illyana Kuziemko.

Features of a UBI

Basic income:

1. Sufficiently generous cash benefit to live on without other earnings

Universal income:

2. Does not phase out / phases out slowly as earnings rise
3. Available to a large proportion of the population
   - Not based on family structure, presence of children, age, disability
   - Paid to those without earned income (and not looking for employment)
   - Paid to those with relatively high earned income, so not just for those in deep poverty

Source: Hoynes and Rothstein (2018)

What is UBI trying to solve?

- Stagnation in wages and job opportunities
  - "Robots are coming!"
  - Transfer % of national income from capital owners to workers (and non-workers)
- Replace current patchwork of transfer programs in the US $\rightarrow$ avoid the high cumulative marginal tax rates implicit in many existing poverty programs (i.e., "welfare traps" (Murray 2016))
- Close holes in the welfare system owed to benefit targetting
  - 1990s welfare reform in the US: many low-income households, particularly those without children, receive minimal or no benefits
  - UBI would reach the needy, not just a demographically targeted subset

Source: Hoynes and Rothstein (2018)

Costs of UBI

Fully implemented UBI program would be extremely expensive:

- Universal payment of \$12,000/yr to each adult US resident over age 18 would cost ≈\$3 T/yr
  - If UBI excluded those over 65, cost ≈ \$2.4 T/yr
- 3 T / yr ≡ ≈ 75% of current total federal expenditures in 2017

Funding:

1. If other transfer programs are *not* cut, need 2× federal taxes
2. Costs are still large even if *eliminate all* other transfer programs (≈ 50% of federal expenditures)

Source: Hoynes and Rothstein (2018)

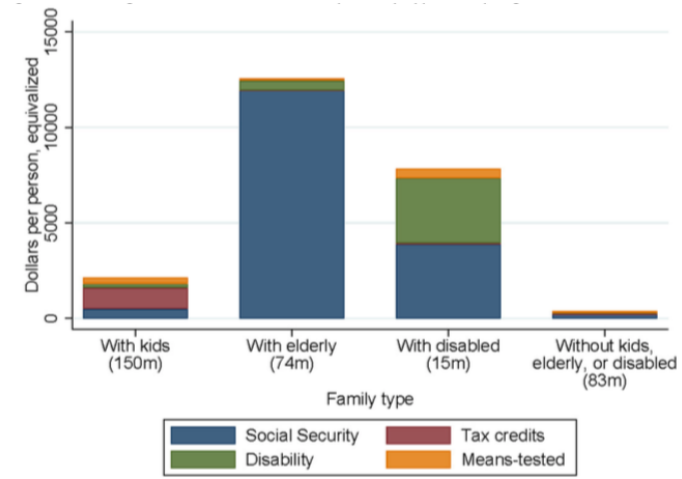
Existing UBI proposals

$\rightarrow$ Most UBI proposals and pilots in the developed world fail to provide **basic** or **universal** income:

- Reduce the payment below a subsistence level *and/or*
- Limit eligibility based on income or other family characteristics

Source: Hoynes and Rothstein (2018)

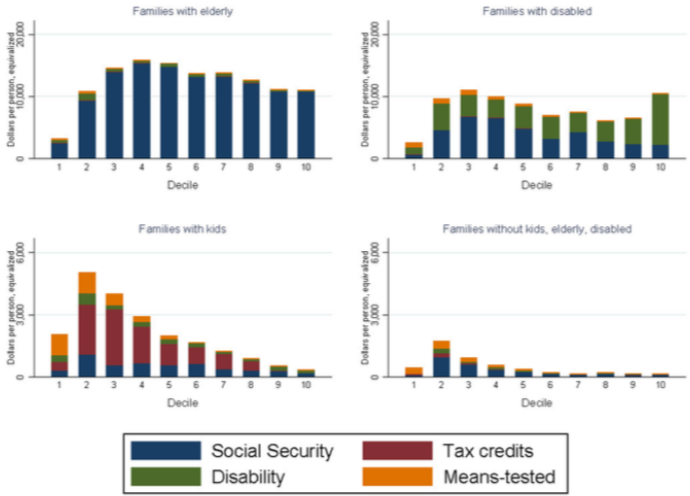
Average transfers, by family type and program



Source: Authors' tabulations of the 2017 Current Population Survey Annual Social and Economic Supplement.

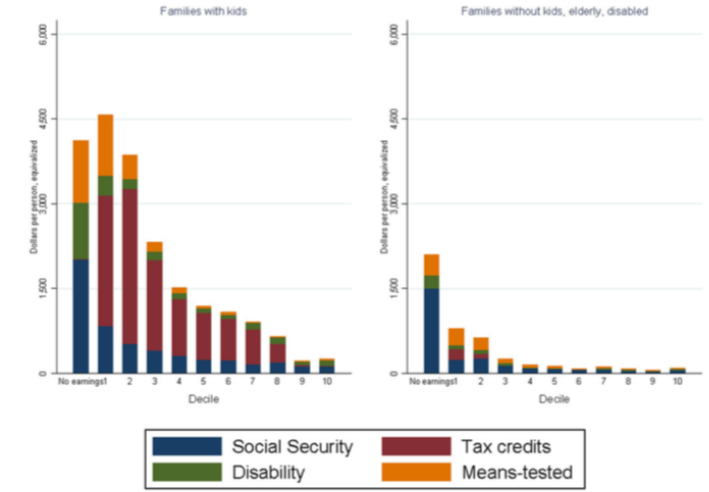
Source: Hoynes and Rothstein (2018)

By family type, and decile of after-tax and transfer inc



Source: Authors' tabulations of the 2017 Current Population Survey Annual Social and Economic

Avg transfers, by family type, and earnings decile



Source: Authors' tabulations of the 2017 Current Population Survey Annual Social and Economic

Source: Haynes and Rothstein (2018)

Outline

Debate on Basic Income vs. Means-tested transfer

Basic income definition: all people receive an unconditional sum of money (every year) regardless of how much they earn

This is the R of the linear tax system $c = (1 - \tau) \cdot z + R$

Or the $-T(0) > 0$ of the nonlinear tax system $c = z - T(z)$

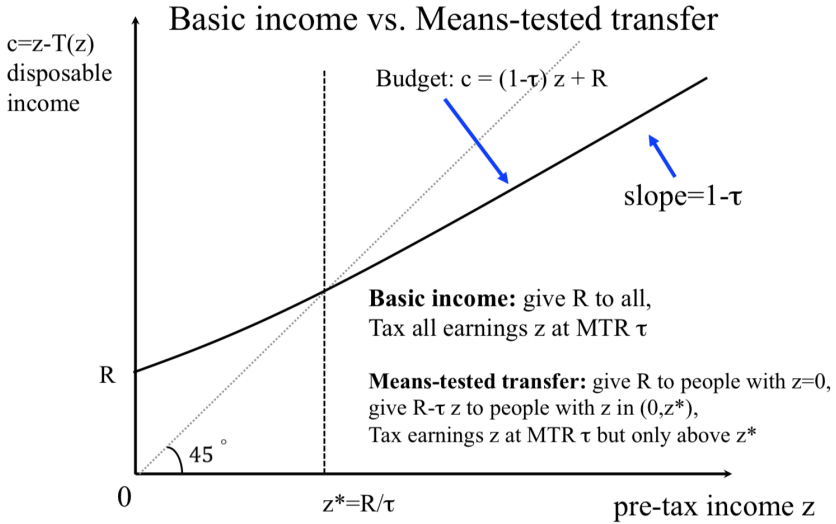
Basic income for everybody + higher taxes to fund it is **economically equivalent** to means-tested transfer phased out with earnings

Pro basic income: less stigmatizing than means-tested transfer

Cons: basic income requires higher "nominal" taxes (that are then rebated back)

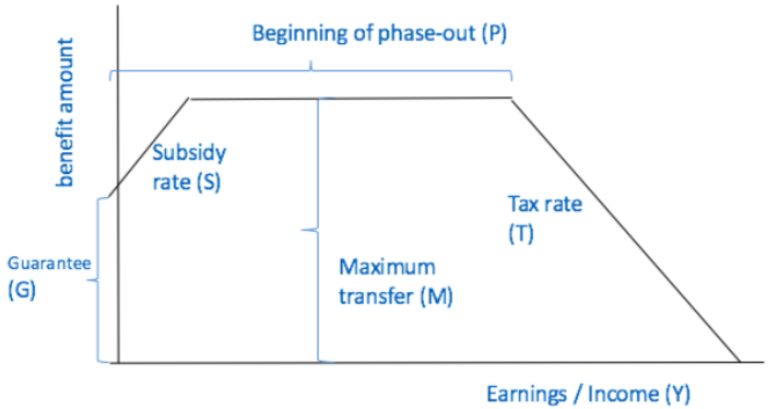
Countries provide "in-kind" basic income in the form of universal health care (not the US) and public education

Source: Saez.


Basic income vs. Means-tested transfer
c=z-T(z)
disposable
income
Budget: c = (1-τ) z + R
slope=1-τ
Basic income: give R to all,
Tax all earnings z at MTR τ
Means-tested transfer: give R to people with z=0,
give R-τ z to people with z in (0,z*),
Tax earnings z at MTR τ but only above z*
R
45 °
0
z*=R/τ
pre-tax income z

Source: Saez.

Illustrative, hypothetical transfer program



Source: Hoynes and Rothstein (2018).

A Framework for Comparing Transfers

Simple approximation of existing and proposed transfer programs in advanced countries:

$$B(X, Y) = E(X) \times \min(G + SY, M, \max(M - T(Y - P), 0))$$

- Benefit B: for a family w/ characteristics X and earnings/income Y
- Guarantee G: transfer to a family with 0 earnings
- Subsidy rate S: rate at which transfer grows for $Y > 0$
- Maximum transfer M: reached at $Y = (M - G)/S$
- Phase-out P: highest earnings a family could have and still receive M
- Tax rate T: rate at which the transfer is reduced for earnings above P
- Eligibility E: categorical eligibility

Source: Hoynes and Rothstein (2018).

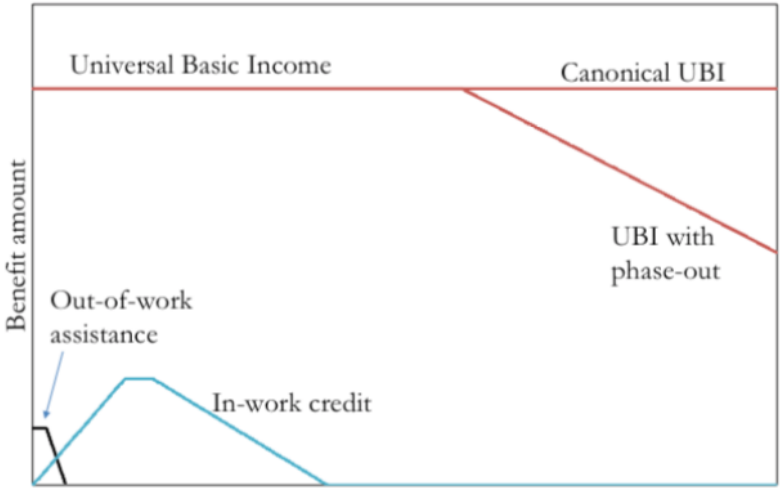
Parameters of selected transfer programs

	Program Type	Cash welfare	In-work benefits	Disability benefits	Retirement	Child allowance	NIT	UBI
	Example Program	AFDC	EITC	SSI	Social Security	Shaefer et al (2016)	Ex of Canonical	Ex of Canonical
Guarantee (G)		$7,285/yr	$0	$8,820/yr	$16,392/yr	$3,000/yr	$5000/yr	$12,000/yr
Subsidy rate (S)		0%	40%	0%	0%	0%	0%	0%
Maximum transfer (M)		$7,285/yr	$5,616/yr	$8,820/yr	$16,392/yr	$3,000/yr	$5000/yr	$12,000/yr
Beginning of phase-out of transfer (P)		$90/mo	$18,340/yr	$85/mo	$0	$0	$0	infinite
Tax rate in phase-out (T)		100%	21%	50%	0%	0%	50%	0%
Eligibility restrictions (E)		Single parents	Must be 25-64; and there is only a small credit for those without children	Documented disability	Over 62 with sufficient work history	All families with children	All families	All adults

Notes: Several programs have additional eligibility criteria (e.g., asset limits) not shown here. AFDC benefits are based on the 1996 schedule for a single parent with two children in the median state, and are in 2017 dollars. P and T reflect the policy after 12 months of work; earlier, P is higher and T is lower. EITC benefits are for an unmarried parent with two children in 2017, and reflect only the federal credit. SSI amount is for an individual without dependents in 2017. Social Security parameters are for the average retirement amount in 2018, and ignore the earnings test, which reduces current benefits but recycles them into higher later benefits.

Source: Hoynes and Rothstein (2018).

Comparing a UBI to other existing programs



Source: Hoynes and Rothstein (2018)

UBI proposals and pilots

	Proposals		Pilots				
	Murray (2016)	Stern (2016)	Switzerland	Stockton	Finland	Ontario	Y Combinator
Guarentee (G)	$10,000	$12,000	$31,938	$6,000	$6,000	$9,848	$12,000
Subsidy rate (S)	0%	0%	0%	0%	0%	0%	0%
Maximum transfer (M)	$10,000	$12,000	$31,938	$6,000	$6,000	$9,848	$12,000
Beginning of phase-out of transfer (P)	$25,000	infinite	infinite	infinite	infinite	$0	Area median income
Tax rate in phase-out (T)	20%	0%	0%	0%	0%	50%	Infinite
Eligibility restrictions (E)	U.S. citizen, age 21+	Age 18+.	None	None	Age 25-58. Receipt of unemployment payments prior to pilot	Age 18-64 with low income <$48,000/yr for couples	Ages 21-40

Notes: Table does not reflect all complexities of proposals and pilots. For example, under the Murray proposal, the transfer would phase out only to $5,000 per adult per year. Under the Stern proposal, the program differs for seniors. Swiss proposal parameters are based on suggestions advanced by supporters of the referendum, and apply to a family with two adults and one child. Ontario parameters are for a couple. Non-U.S. programs are converted to U.S. dollars using purchasing power parity.

Source: Hoynes and Rothstein (2018)

Optimal Transfer Programs

- Several types of transfer programs are used in practice, each justified by a different theory and set of assumptions
- **Option 1:** Negative Income Tax: TANF (Mirrlees 1971)
  - Benefits: no one omitted; low admin costs; no stigma
  - Costs: effciency loss from less work
- **Option 2:** Work-for-welfare: EITC (Saez 2002)
  - Benefits: more incentive to work; low admin costs
  - Costs: efficiency loss in phaseout range, no coverage of non-workers

Optimal Transfer Programs

- **Option 3:** Categorical anti-poverty programs: assistance for blind (Akerlof 1978)
  - Benefits: tagging relaxes incentive constraint by tying tax rate to immutable qualities
  - Costs: not always feasible and limited coverage
- **Option 4:** In-kind transfers: food stamps, public housing (Nichols and Zeckhauser 1982)
  - Benefits: Efficiency gains from relaxing IC for high-types via ordeals
  - Costs: Paternalism (spend on the right things), ine cient ordeal cost

OPTIMAL PROFILE OF TRANSFERS

If individuals respond to taxes only through **intensive** margin (how much they work rather than whether they work), optimal transfer at bottom takes the form of a "Negative Income Tax":

1) Lumpsum grant $-T(0) > 0$ for those with no earnings

2) High marginal tax rates (MTRs) $T'(z)$ at the bottom to phase-out the lumpsum grant quickly

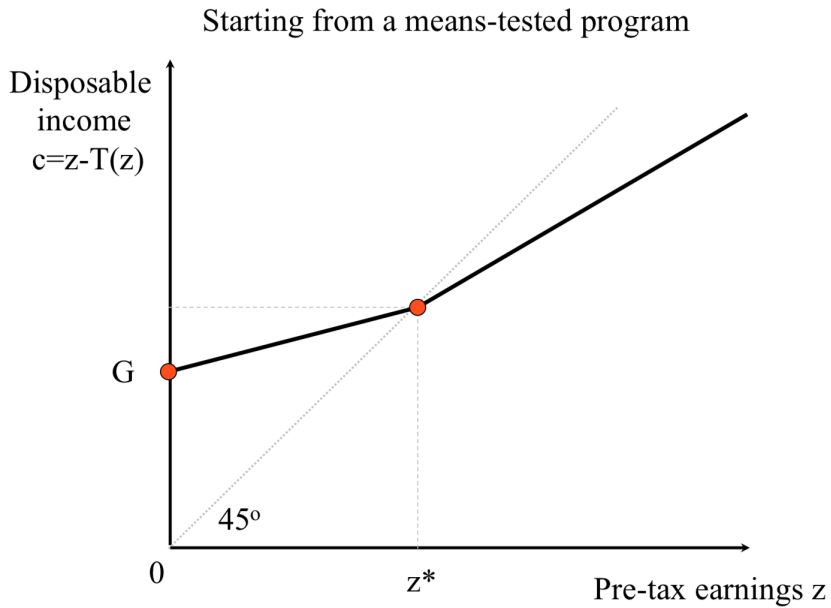
Intuition: high MTRs at bottom are efficient because:

(a) they target transfers to the most needy

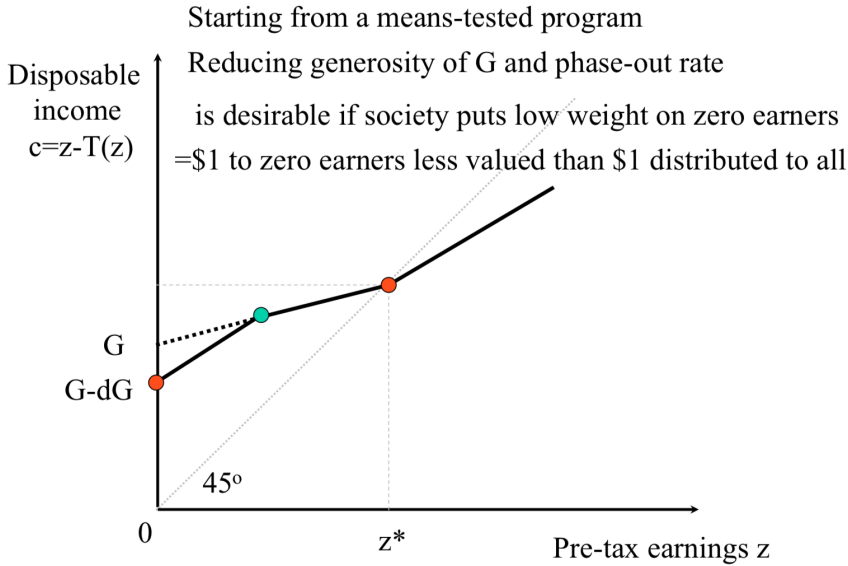
(b) earnings at the bottom are low to start with $\Rightarrow$ intensive labor supply response does not generate large output losses

But US system with zero MTR at bottom justified if society sees people with zero income as **less deserving** than average

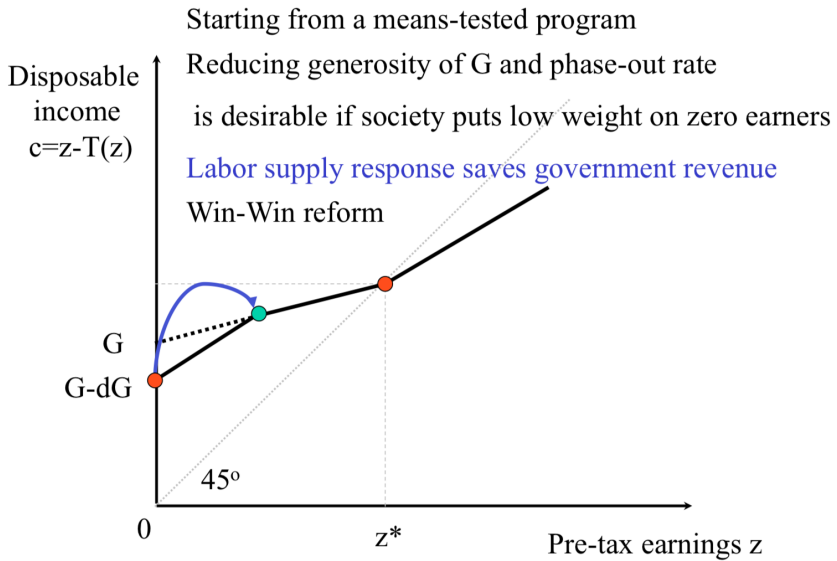
Source: Saez.


Starting from a means-tested program
Disposable income c=z-T(z)
G
45o
0
z*
Pre-tax earnings z

Source: Saez.


Starting from a means-tested program
Reducing generosity of G and phase-out rate
is desirable if society puts low weight on zero earners
=$1 to zero earners less valued than $1 distributed to all
Disposable income c=z-T(z)
G
G-dG
45°
0
z*
Pre-tax earnings z

Source: Saez.


Starting from a means-tested program
Reducing generosity of G and phase-out rate
is desirable if society puts low weight on zero earners
Labor supply response saves government revenue
Win-Win reform
Disposable income c=z-T(z)
G
G-dG
45°
0
z*
Pre-tax earnings z

Source: Saez.

Optimal Transfers: Participation Responses

Empirical literature shows that participation labor supply responses [whether to work or not] are large at the bottom [much larger and clearer than intensive responses]

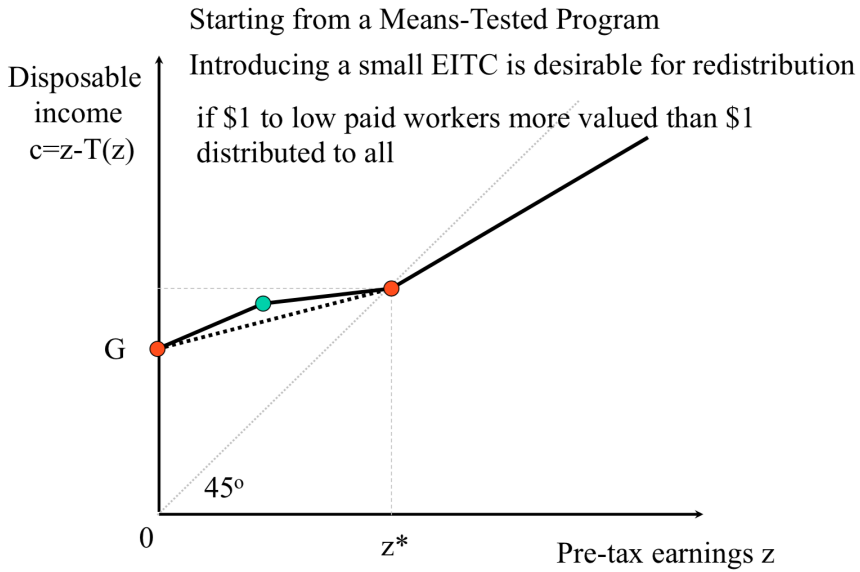
Participation depends on participation tax rate:

$$\tau_p = [T(z) - T(0)]/z$$

Individual keeps fraction $1 - \tau_p$ of earnings when moving from zero earnings to earnings z: $z - T(z) = -T(0) + z \cdot (1 - \tau_p)$

Key result: in-work subsidies with $T'(z) < 0$ are optimal when labor supply responses are concentrated along extensive margin and govt cares about low income workers.

Source: Saez.

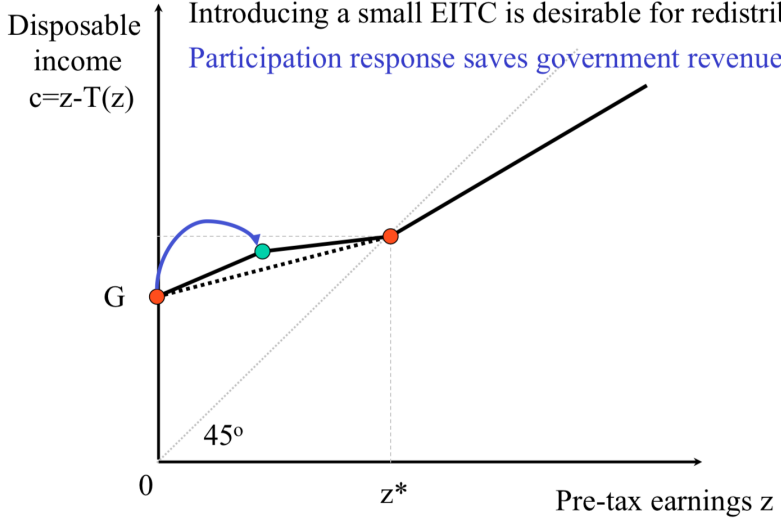

Starting from a Means-Tested Program
Introducing a small EITC is desirable for redistribution
if $1 to low paid workers more valued than $1 distributed to all
Disposable income c=z-T(z)
G
45o
0
z*
Pre-tax earnings z

Source: Saez.

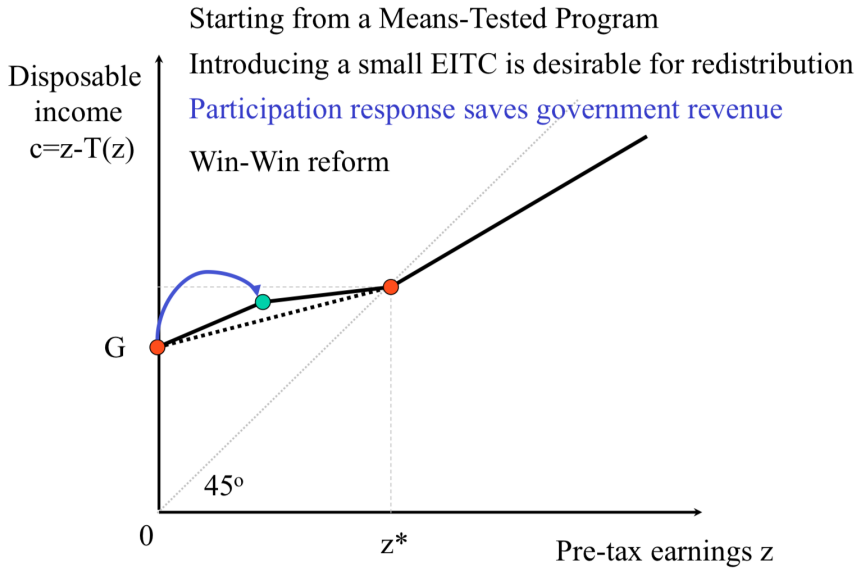
Starting from a Means-Tested Program

Introducing a small EITC is desirable for redistribution

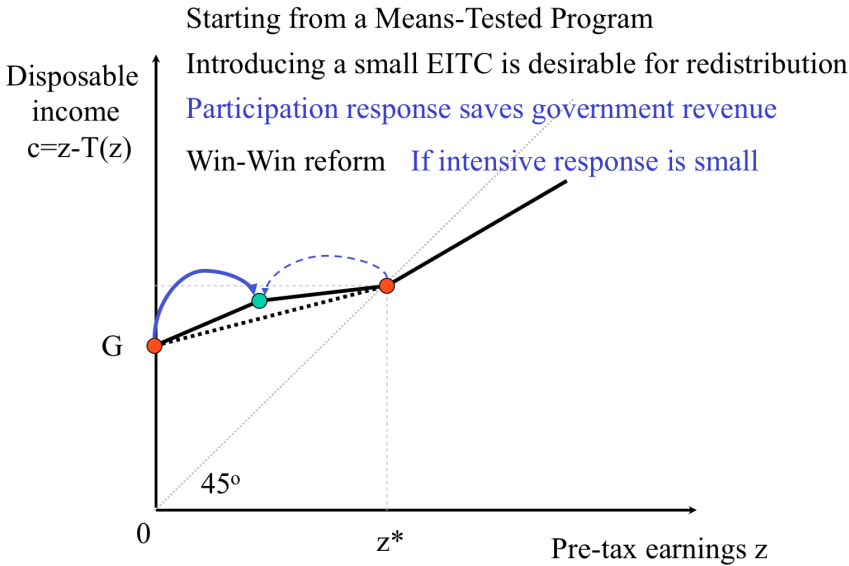
Participation response saves government revenue



Source: Saez.


Starting from a Means-Tested Program
Introducing a small EITC is desirable for redistribution
Participation response saves government revenue
Win-Win reform
Disposable income c=z-T(z)
G
45°
0
z*
Pre-tax earnings z

Source: Saez.


Starting from a Means-Tested Program
Introducing a small EITC is desirable for redistribution
Participation response saves government revenue
Win-Win reform
If intensive response is small
Disposable income c=z-T(z)
G
45o
0
z*
Pre-tax earnings z

Source: Saez.

OPTIMAL PROFILE OF TRANSFERS: SUMMARY

1) If society views zero earners as less deserving than average [conservative view that substantial fraction of zero earners are "free loaders"] then low lumpsum grant combined with low phasing out rate at bottom is optimal

2) If society views low income workers as more deserving than average [typically bipartisan view] and labor supply responses concentrated along extensive margin (work vs. not) then low phasing out rate at bottom is optimal

3) Generous lumpsum grant with high MTR at bottom justified only if society views non workers as deserving and no strong response along the extensive margin (work vs. not)

Source: Saez.

Saez 2002: Intuition for EITC

- Two types: doctors (wage w_h) and plumbers (w_l)
- Both can choose whether to work, but doctors cannot become plumbers
- Transfer to 0 income individuals $\rightarrow$ help plumbers but distort doctors' incentives to work
- Transfer to those with income of $w_l \rightarrow$ still help plumbers, but do not distort doctors' incentives
- Therefore better to have a larger transfer to w_l than 0, i.e. have a subsidy for work = EITC
- In pure ext margin model, transfer T_1 only distorts behavior of type 1
  - Higher types don't move down
  - But transfer T_0 distorts behavior of all types on extensive margin

Outline

Earned Income Tax Credit (EITC) program

Hotz-Scholz '04, Eissa-Hoynes '06, Nichols-Rothstein '15 provide detailed surveys

1) EITC started small in the 1970s but was expanded in 1986-88, 1994-96, 2008-09: today, largest means-tested cash transfer program [$60bn in 2012, 25m families recipients]

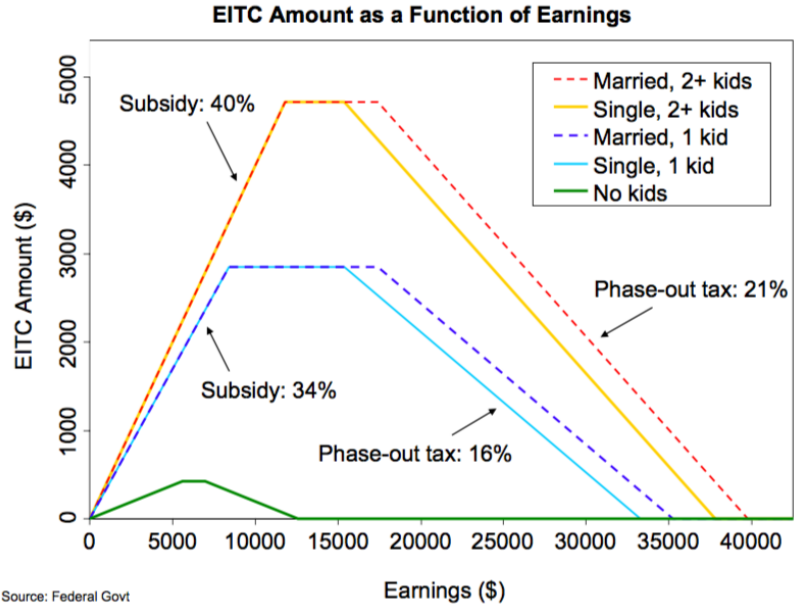
2) Eligibility: families with kids and low earnings.

3) Refundable Tax credit: administered as annual tax refund received in Feb-April, year $t+1$ (for earnings in year t)

4) EITC has flat pyramid structure with phase-in (negative MTR), plateau, (0 MTR), and phase-out (positive MTR)

5) States have added EITC components to their income taxes [in general a percentage of the Fed EITC, great source of natural experiments, understudied bc CPS too small]

Source: Saez.


EITC Amount as a Function of Earnings
Married, 2+ kids
Single, 2+ kids
Married, 1 kid
Single, 1 kid
No kids
Subsidy: 40%
Subsidy: 34%
Phase-out tax: 21%
Phase-out tax: 16%
EITC Amount ($)
0
1000
2000
3000
4000
5000
0
5000
10000
15000
20000
25000
30000
35000
40000
Earnings ($)
Source: Federal Govt

Source: Saez

Theoretical Behavioral Responses to the EITC

Extensive margin: positive effect on Labor Force Participation

Intensive margin: earnings conditional on working, mixed effects

1) Phase in: (a) Substitution effect: work more due to wage subsidy, (b) Income effect: work less $\Rightarrow$ Net effect: ambiguous; probably work more

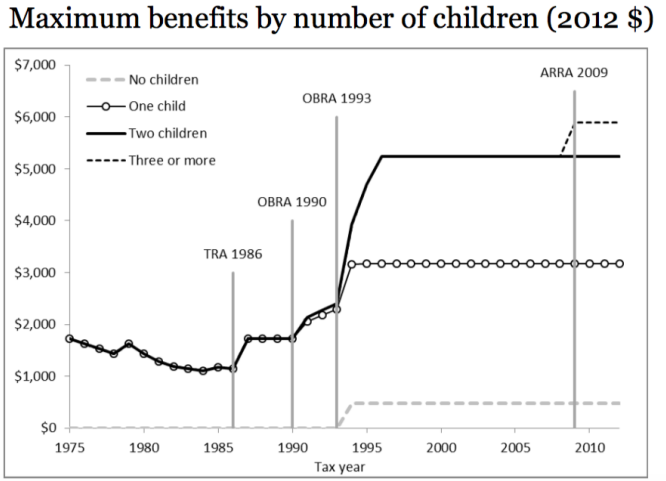
2) Plateau: Pure income effect (no change in net wage) $\Rightarrow$ Net effect: work less

3) Phase out: (a) Substitution effect: work less, (b) Income effect: also work less $\Rightarrow$ Net effect: work less

Should expect bunching at the EITC kink points

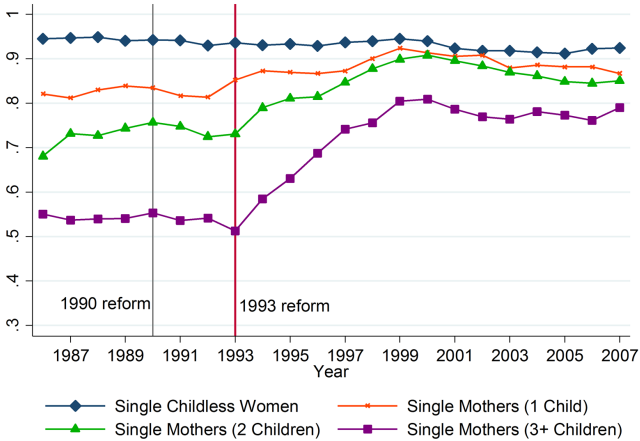
Source: Saez.

EITC changes



Source: Hillary Hoynes.

Labor Force Participation and EITC reforms



Source: Henrik Klevin.

Eissa and Liebman (1996)

Overview of Eissa and Liebman (1996)

- Paper: Eissa, Nada and Jeffrey B Liebman. "Labor Supply Response to the Earned Income Tax Credit." The Quarterly Journal of Economics, Vol. 111, No. 2 (1996): 605-637
- Question: How did the EITC expansion in 1986 impact labor supply decisions for single women with children, relative to single women without children?
- Motivation: EITC creates ambiguous labor supply incentives, different at the intensive and extensive margins
- Data: sample of single women with and without children from 1985-1987 and 1989-1991 March Current Population Surveys (children are individuals under 19 for tax purposes)

TRA86 and the EITC expansion

- EITC expansion increased the subsidy rate for the phase-in of the credit from 11% to 14%
- Expansion also increased the maximum income to which the subsidy rate was applied from \$5000 to \$6080 $\rightarrow$ increase in the maximum credit from \$550 to \$851 (\$788 in 1986 dollars)
- Phase-out rate was reduced from 12.22% to 10%
- Positive impact of the EITC expansion on the average return to work was reinforced by other elements of TRA86

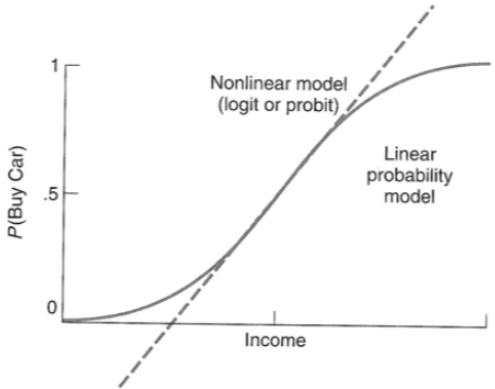
Model of labor force participation (extensive margin)

$$P(lfp_{it} = 1) = \Phi(\alpha + \beta \mathbf{Z}_{it} + \gamma_0 treat_i + \gamma_1 post86_t + \gamma 2(treat \times post86)_{it})$$

- $lfp = 1$ if a woman reported working at least one hour during the previous year
- $\mathbf{Z}$: control vector including unearned income, number of children, family size, number of preschool children, age, age^2, age^3, educ, educ^2, a dummy for race, and dummies for 1984, 1985, 1989, 1990
- $treat$=1 if a woman has a child in her subfamily (therefore is eligible for EITC)
- $post86$=1 if tax year$>$ 1986

Quick aside on probits

- What if limited dependent variable? $Y_i = 0$ or $Y_i = 1$



Source: Ashenfelter.

Quick aside on probits

Setup:

$$\begin{aligned}\mathbb{E}(Y_i) &= \underbrace{Pr(Y_i = 0)0}_{=0} + Pr(Y_i = 1)1 \\ &= Pr(Y_i = 1) \\ &\equiv \underbrace{\Phi(x_i\beta)}_{probit}\end{aligned}$$

Marginal Effects:

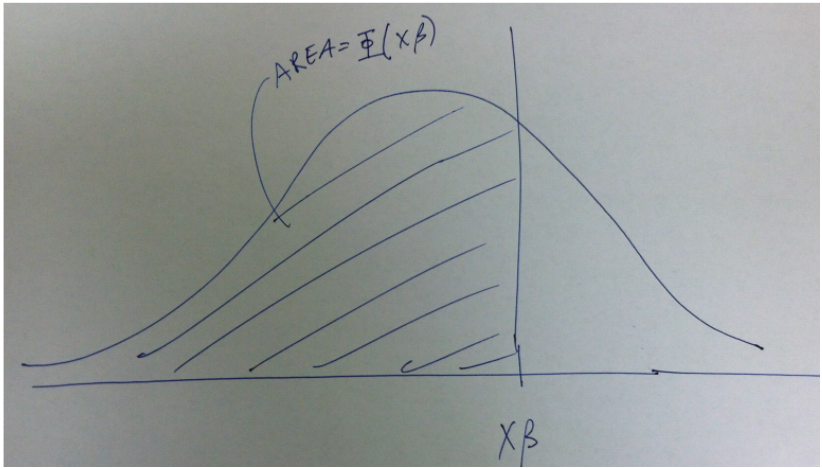
$$\begin{aligned}\frac{\partial P_i}{\partial x_i} &= \frac{\partial \Phi(x_i\beta)}{\partial x_i} \\ &= \beta\phi(x_i\beta)\end{aligned}$$

where Φ is the c.d.f. and ϕ is the p.d.f. of the normal distribution[9]

[9] Φ is $prob(z < x_i\beta)$, z $\sim \mathbb{N}(0, 1)$, so need to standardize if actually using this

Quick aside on probits

What does this look like in a graph?



Model of labor supply (intensive margin)

$$\textit{Annual Hours}_{it} = \alpha + \beta \mathbf{Z}_{it} + \gamma_0 \textit{kids}_i + \gamma_1 \textit{post86}_t + \gamma 2(\textit{kids} \times \textit{post86})_{it} + \varepsilon_{it}$$

- *kids* =1 for unmarried women with children
- *post*86=1 if tax year$>$ 1986
- **Z**: same control vector as in the extensive model
- Authors did not impose a selection model to acct for new entrants

Empirical Strategy

Two sets of Differences-in-Differences (DD) specifications:

1. Specification 1
   - Treatment: single women with children and low levels of education
   - Control:
     - Single women without children, with low levels of education and with predicted income in the EITC range
     - Single women with children, more than high school education and predicted income above the EITC maximum income
2. Specification 2
   - Treatment: single women with children and with potential earnings that would have made them eligible for EITC
   - Control: single women with children with higher education levels and predicted income beyond the EITC range

Findings: Extensive margin

- Labor force participation of single women with children increased following TRA86 with no similar increase for the control groups
  - Increase in the participation rate of 1.8pp from 47.9% baseline for the "less than high school" treatment group
  - 2.3pp drop in the participation rate of females with less than high school education and no children
  - $\Rightarrow$ participation response of 4.1pp
- Treated group had 1.9pp higher probability of participating in the workforce due to the combined impact of the EITC expansion and the other TRA86 reductions in tax liability for single women with children
  - Results from probit regression to estimate probability of participating in the workforce

Findings: Intensive margin

- Women with children increased their relative hours conditional on working by a small amount
- On average, unconditional hours worked did not decline
- Reconciling these findings with theory:
  - Common for studies of labor supply to find that labor force participation responds more than hours of work to a change in the net wage (Mroz 1987; Zabel 1993; Triest 1992)
  - Many EITC recipients do not know that they receive the credit, and that even those who are aware of it do not understand how it works

Overview of Hoynes and Patel (2015)

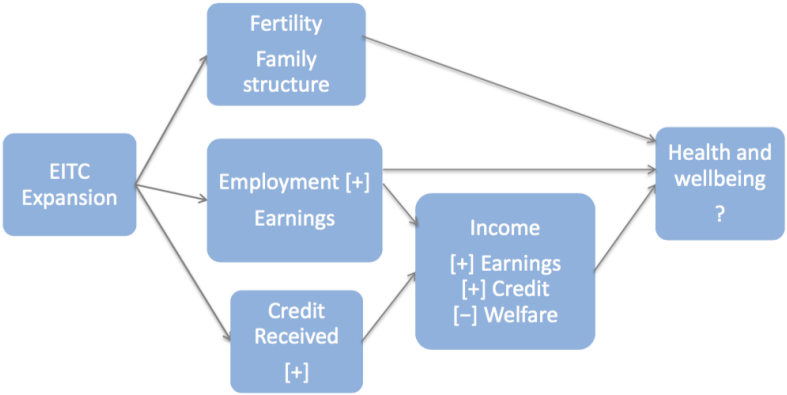
- Question: How does the EITC affect the full distribution of after-tax and transfer income?
- Motivation:
  1. EITC often brought up as an optimal policy to encourage employment
  2. Interest in policies aimed at reducing inequality and increasing income and opportunity of the less advantaged population

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



Source: Hoynes.

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

Source: Hoynes.

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

Source: Hoynes.

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%.

Source: Hoynes

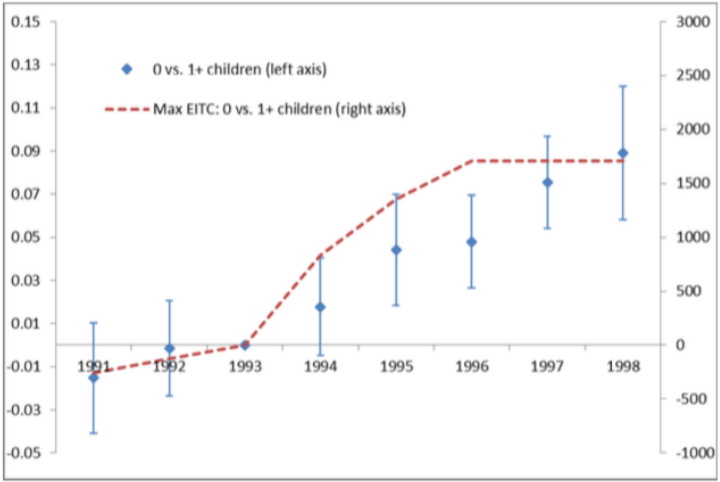
Event Study Specification

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

- 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 βs 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?

Source: Hoynes.

Event Study Estimates of the Effects of OBRA1993



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

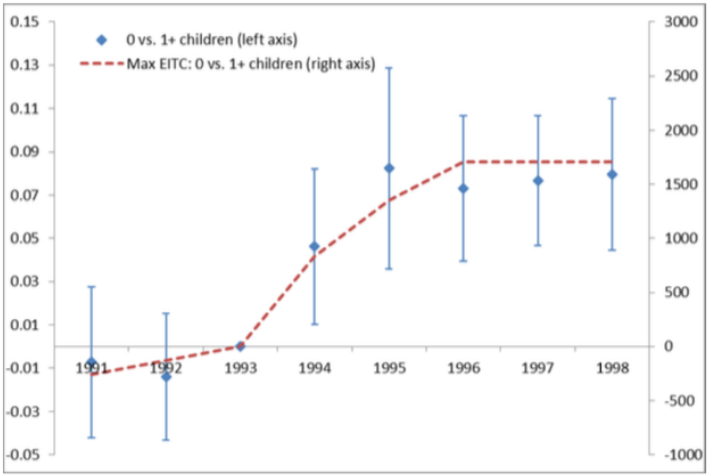
Source: Hoynes.

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 ≥ *x*% of the federal poverty threshold

Source: Hoynes.

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



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

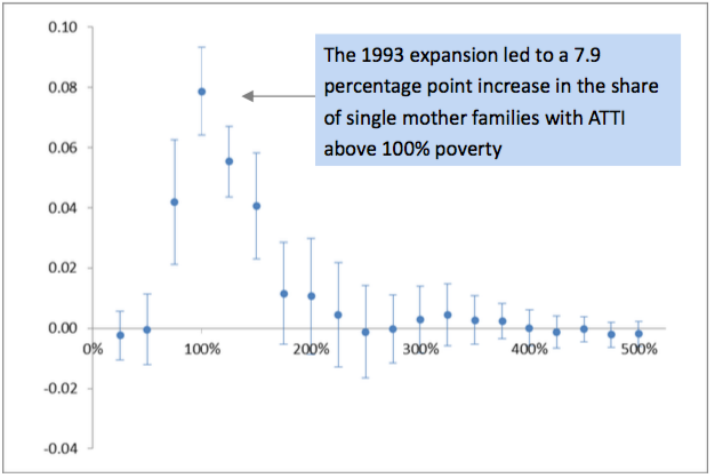
Source: Hoynes.

Magnitudes for 100% poverty effects

- The1993 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

Source: Hoynes.

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"

Source: Hoynes.

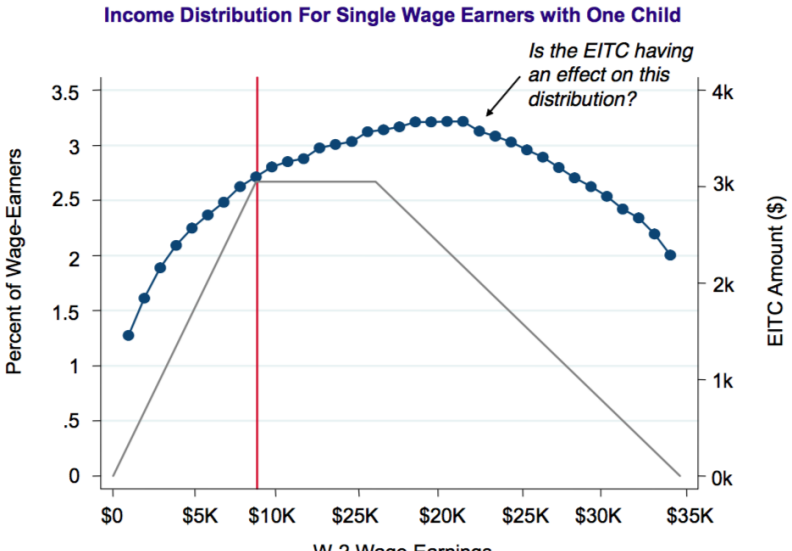
Chetty Friedman Saez (2012)

Chetty, Friedman, Saez (2012)

- Identifies impacts of EITC on earnings distribution given existence of frictions
  - Use areas with no knowledge about the EITC schedule as a counterfactual for earnings distribution in absence of EITC
  - Results suggest that earlier Danish study may have significantly understated impact of tax system on earnings distribution

Source: Chetty.

Chetty, Friedman, Saez (2012)

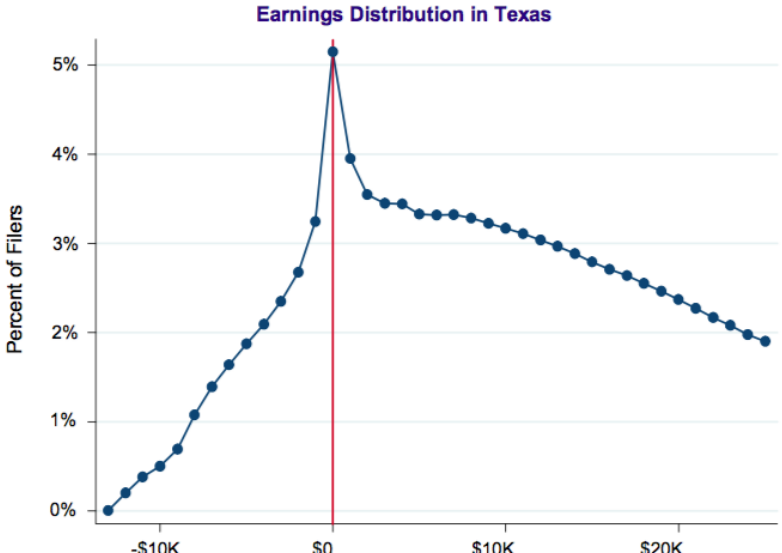


Chetty, Friedman, Saez (2012)

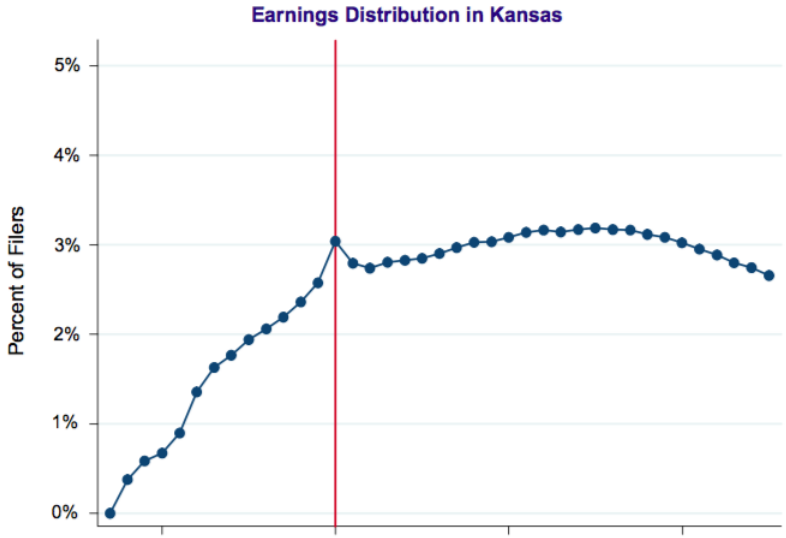
- First, develop a proxy for local knowledge about EITC schedule based on income manipulation by self-employed individuals
  - Self-employment income is self-reported → easy to manipulate
  - Audit data reveal very high misreporting rates of SE income
- Second, compare W-2 wage earnings distributions across areas to uncover impacts of EITC of "real" earnings behavior
  - Wage earnings are directly reported to IRS by employers → virtually no scope for misreporting

Source: Chetty.

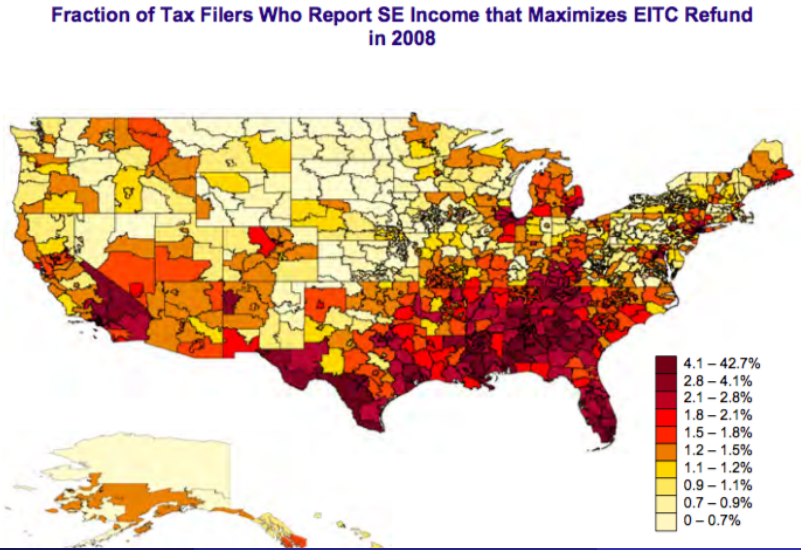
Chetty, Friedman, Saez (2012)



Chetty, Friedman, Saez (2012)



Chetty, Friedman, Saez (2012)



Chetty, Friedman, Saez (2012)

- Step 1: Document variation across neighborhoods in sharp bunching among self-employed
- Step 2: Establish that variation in sharp bunching across neighborhoods is driven by differences in knowledge about EITC schedule

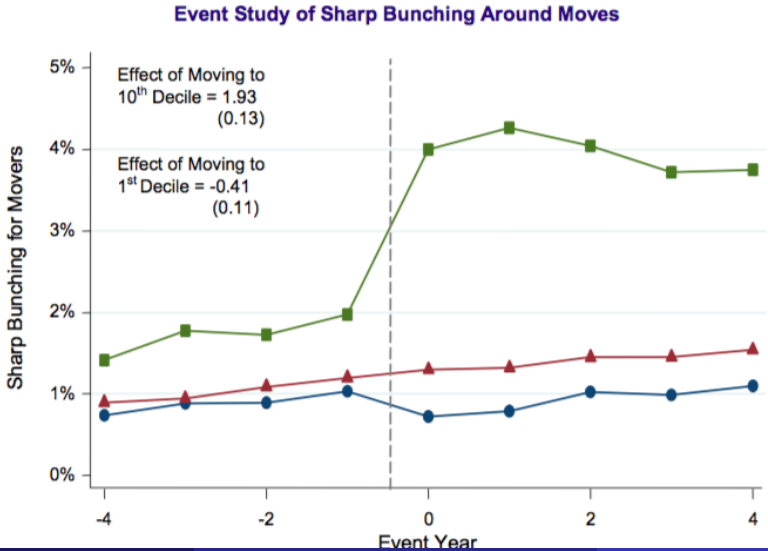
Source: Chetty.

Chetty, Friedman, Saez (2012)

- Consider individuals who move across neighborhoods to isolate causal impacts of neighborhoods on elasticities
  - 54 million observations in panel data on cross-zip movers
  - Analyze how changes in neighborhood sharp bunching affect movers' behavior

Source: Chetty.

Chetty, Friedman, Saez (2012)

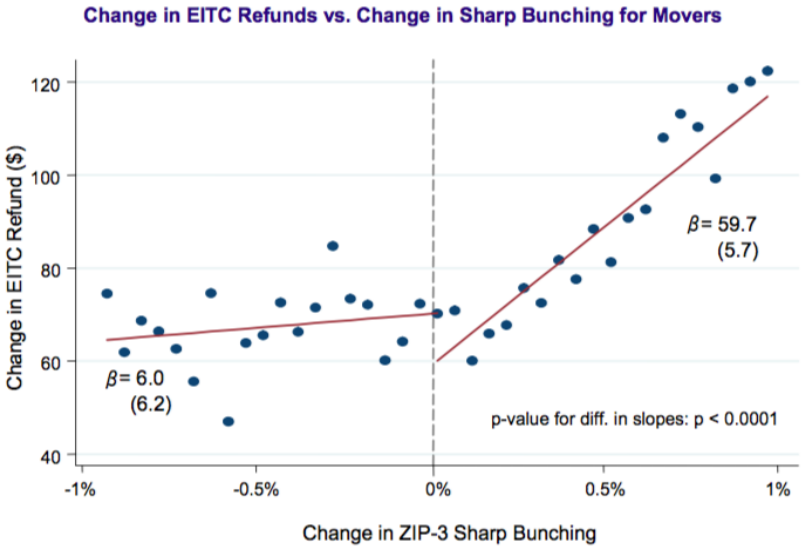


Chetty, Friedman, Saez (2012)

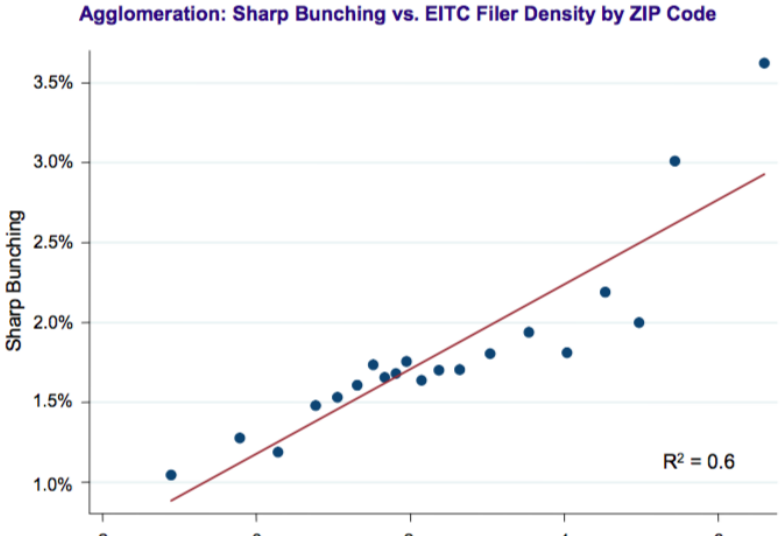
- Knowledge model predicts asymmetric impact of moving:
  - Moving to a higher-bunching neighborhood should raise EITC refund
  - Moving to a lower-bunching should not affect EITC refund

Source: Chetty.

Chetty, Friedman, Saez (2012)



Chetty, Friedman, Saez (2012)



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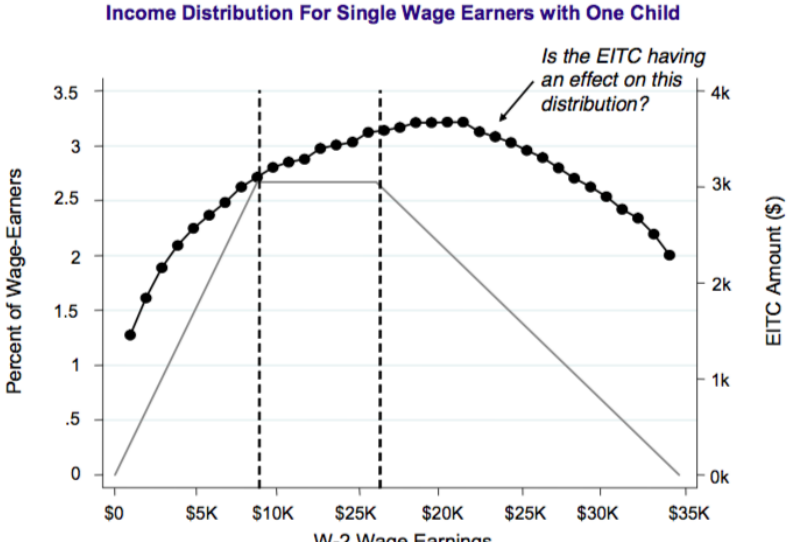
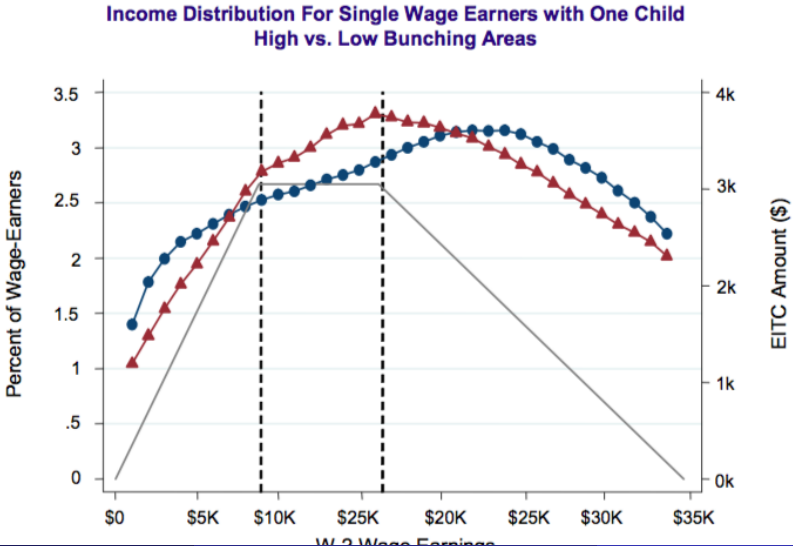
- Step 1: Document variation across neighborhoods in sharp bunching among self-employed
- Step 2: Establish that variation in sharp bunching across neighborhoods is driven by differences in knowledge about EITC schedule
- Step 3: Compare wage earnings distributions across low- and high-knowledge neighborhoods to uncover impacts of EITC on earnings

Source: Chetty.

Chetty, Friedman, Saez (2012)



Chetty, Friedman, Saez (2012)

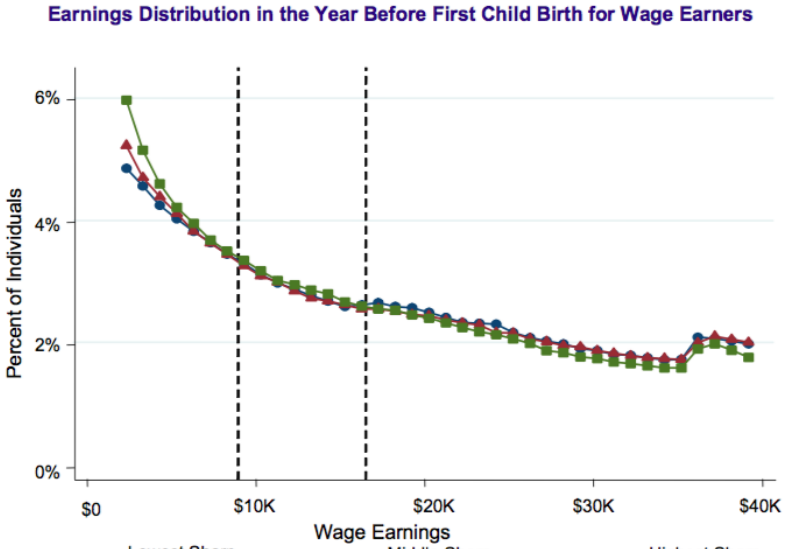


Chetty, Friedman, Saez (2012)

- Individuals without children are essentially ineligible for the EITC
- Birth of a child therefore generates sharp variation in marginal incentives
- Birth affects labor supply directly, but cross-neighborhood comparisons provide good counterfactuals

Source: Chetty.

Chetty, Friedman, Saez (2012)



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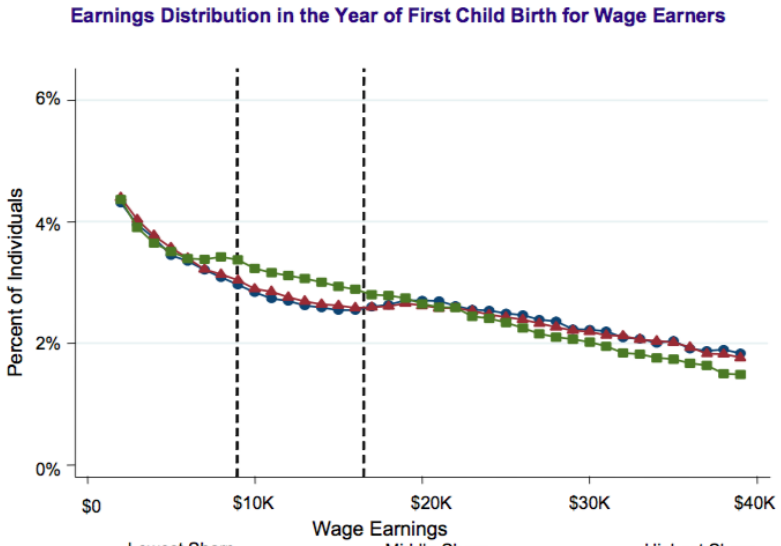

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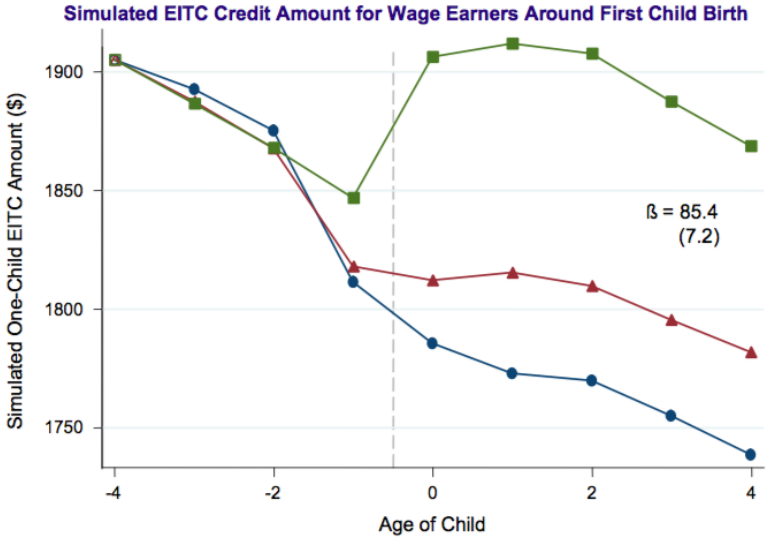

Rothstein (AEJ: Policy, 2010)

Overview of Rothstein (2010)

- Paper: Rothstein, Jesse. "Is the EITC as Good as an NIT? Conditional Cash Transfers and Tax Incidence." American Economic Journal: Economic Policy, Vol. 2, No. 1 (2010): 177-208.
- Question: What is the incidence of the EITC and NIT (Negative Income Tax)? How does EITC affect wages?
- Motivation:
  - EITC payments subsidize work and transfer money to low income working individuals ($50 bil/year)
  - EITC-induced labor supply can lower wages and have negative spillovers in low-skilled labor market
- Policy question: how much of the benefit of the EITC goes to low income people vs firm owners that benefit from increased labor supply and lower wages?

A. *The Textbook Model*

I begin with constant-elasticity supply and demand functions for a homogenous good, with proportional taxes levied on the supplier:

$$L^S(w) = \alpha\left(w\left(1-\tau\right)\right)^{\sigma} \quad \text{and} \quad L^D(w) = \beta w^{\rho}. \tag{1}$$

Here, w is the price faced by the demander, $w\left(1-\tau\right)$ is the net-of-tax price received by the supplier, and $\sigma > 0$ and $\rho < 0$ are the price elasticities of supply and demand, respectively. The equilibrium pre-tax price and quantity are

$$w = \alpha^{\frac{-1}{\sigma-\rho}}\beta^{\frac{1}{\sigma-\rho}}\left(1-\tau\right)^{\frac{-\sigma}{\sigma-\rho}} \quad \text{and} \quad L = \alpha^{\frac{-\rho}{\sigma-\rho}}\beta^{\frac{\sigma}{\sigma-\rho}}\left(1-\tau\right)^{\frac{-\sigma\rho}{\sigma-\rho}}. \tag{2}$$

Incidence in textbook model

$$d \ln w = (-\sigma/(\sigma - \rho))d \ln(1 - \tau) \approx \sigma/(\sigma - \rho)d\tau$$

- Demand side bears share $\sigma/(\sigma - \rho)$
- Supply side bears remaining share $-\rho/(\sigma - \rho)$
- Net transfer from the supply side is $Lwd\tau(-\rho/(\sigma - \rho))$.

Incidence with Heterogeneous workers: supply

- Supply of individual i working in skill-level labor market s is

$$L_{is} = \alpha_i (w_s(1 - \tau_{is}))^{\sigma}$$

- Change in labor supplied to market s is

$$d \ln L_{is} \approx \sigma \left(d \ln w_s - L_s^{-1} \sum_i (L_{is} d\tau_{is}) \right) = \sigma (d \ln w_s - d\tau_s) \tag{1}$$

where $L_s = \sum_i L_{is}$ and $d\tau_s = \frac{1}{L_s} \sum_i L_{is} d\tau_{is}$

Incidence with Heterogeneous workers: demand

Next, I need to model the determination of wages. I assume that workers within each market are perfect substitutes and that total effective labor supply is a Constant Elasticity of Substitution (CES) aggregate of supply in each market:

$$L = \left(\sum_s \beta_s L_s^{\frac{1+\rho}{\rho}} \right)^{\frac{\rho}{1+\rho}}. \tag{6}$$

Here, ρ is the elasticity of substitution between different types of labor. Cost minimization implies a set of labor demand functions of the form

$$L_s = \psi \beta_s^{-\rho} w_s^{\rho}, \tag{7}$$

Incidence with Heterogeneous workers: equilibrium

where $\psi = \psi(w_1, w_2, \ldots, w_S)$ is a parameter reflecting the aggregate demand for labor. Note that w_t enters the expression for L_s, $s \neq t$, only through ψ. Because I focus on partial equilibrium incidence and not on changes in the price level, I neglect effects of taxes operating through ψ. I also assume that the β_s parameters are invariant.

Differentiating the inverse demand implied by (7) yields

$$d\ln w_s = \rho^{-1}\, d\ln \psi + \rho^{-1}\, d\ln L_s. \tag{8}$$

Combining (5) and (8), we obtain the quasi-reduced form

$$d\ln w_s \approx \frac{1}{\sigma + \rho}\, d\ln \psi + \frac{\sigma}{\sigma - \rho}\, d\tau_s \tag{9a}$$

$$d\ln L_s \approx \frac{\sigma}{\sigma + \rho}\, d\ln \psi + \frac{\rho\sigma}{\sigma - \rho}\, d\tau_s. \tag{9b}$$

As the mean tax rate in the labor market rises ($d\tau_s > 0$), relative supply of type-s labor falls (by $(\rho\sigma/(\sigma-\rho))\, d\tau_s < 0$) and relative pre-tax wages increase (by $(\sigma/(\sigma - \rho))$

Findings

- Incidence effects are important to the evaluation of the EITC
- EITC:
  - Approx 1/3 of EITC payments is captured by employers through lower wages to low-wage women
  - With preferred parameters, \$1 in EITC spending increases after-tax incomes by \$0.73
  - Workers who are EITC ineligible also see wage declines
- NIT:
  - Traditional NIT discourages work but induces large transfers from employers to their workers
  - With preferred parameters, \$1 in NIT spending increases after-tax incomes by \$1.39

Outline

1. Static labor supply

- General trend in recent decades in the US toward programs that attempt to minimize labor supply disincentives
- UBI moves policy in the opposite direction: expected to $\downarrow$ labor supply
  - Pure income effect $\rightarrow\downarrow$ work on extensive and intensive margins
  - Many UBI proposals impose phase-outs $\rightarrow$ further work disincentive through negative substitution effects
  - Relatively high G likely leads to larger labor supply reductions
  - Absence of means-testing $\rightarrow$ vastly more people are exposed to these work disincentives than in our current patchwork system
- UBI may shift labor supply from unpleasant jobs to jobs that combine low pay with high amenities and/or with opportunities for human capital accumulation
- By providing a predictable and permanent income floor, UBI may encourage entrepreneurship/risk-taking

2. Pre-tax wages, human capital, and labor supply in LR

Potential channels for UBI impacts on wages

1. $\downarrow$ labor supply $\rightarrow\uparrow$ wages for those who remain in work, all else equal (Rothstein 2010)
2. UBI may $\uparrow$ human capital investments by young people and adults
   - Evidence that credit constraints are binding on many students and lead to reduced educational attainment (Lochner and Monge-Naranjo 2012)
   - UBI would loosen these constraints, allowing more educational investment
   - Any impact on human capital accumulation would naturally translate into higher wages in the medium to longer run
3. Potential positive effects on child development by increasing family resources when children are young (see Cunha and Heckman, 2007)
4. Potential LR increase in labor supply: higher-skilled individuals tend to work more $\rightarrow$ positive impact of UBI on long run labor supply

3. Universality, take-up and stigma

- Political value in the universality of UBI: widespread support for the program
- Tax on non-UBI income $\equiv$ phase-out, and separates out universality of the program and taxes needed to fund it
- Universality of UBI $\Rightarrow$ lack of stigma for UBI recipients

Universal but not basic income

Two examples of universal programs without strict eligibility requirements:

1. Alaska Permanent Fund
   - Demogrant: Children and non-citizen permanent residents and refugees are eligible, but new residents of the state are not
   - Varying yearly payments, financed by the state's oil revenues
   - Jones and Marinescu (2018): dividend had no effect on employment, probably due to general equilibrium effects ($\uparrow$ income $\rightarrow \uparrow$ consumption $\rightarrow \uparrow$ labor demand)
2. Eastern Cherokee Native American tribe

Universal but not basic income

Two examples of universal programs without strict eligibility requirements:

1. Alaska Permanent Fund
2. Eastern Cherokee Native American tribe
   - Demogrant to adults, financed w/ revenues from tribal casinos
   - Payments don't depend on employment status, income, or residence on reservation
   - Payments had positive impacts on children's educational attainment and criminal arrests (Akee et al, 2010); emotional and behavioral health (Akee et al. 2018)
   - Negative effects on children's body mass indices (Akee et al. 2013)
   - Akee et al. (2010): no impact on labor force participation

Labor supply response estimates from other settings

Necessary statistics to calculate effect of UBI:

1. Income elasticity of labor supply (sufficient if no phase-out)
2. Compensated substitution elasticity (if phase-out)

	Men	Married Women
Income	-0.05	-0.20
Substitution	0.08	0.78

Source: Blundell and MaCurdy 1999

Calibrated effect of UBI using estimates from other settings

Can apply these elasticities to estimate the effects of a UBI:

- \$12,000 per adult UBI without a phase-out:
  - 33% $\uparrow$ in income at the mean among single adult families or a 25% $\uparrow$ among married couple families
  - 1.6% - 3.3% $\downarrow$ in hours worked
- Gradual phase-out between the 50th and 75th percentiles of the family income distribution:
  - This creates an avg implicit tax rate of about 27% for single adult families and 55% for married couple families over this range
  - Aggregate labor supply $\downarrow \approx$ 3%

Longer-run effects: "two-generation" benefits

Longer-run effect of UBI may differ from that in the short run:

- Positive impacts of welfare on achievement among young children
  - Only for policies that increased maternal employment and family income (Morris et al 2009)
- SNAP and the EITC improve health at birth (Almond et al. 2011, Hoynes et al. 2015, Strully et al 2010)
- Children have fewer school absences when they have greater access or larger purchasing power of SNAP (Bronchetti et al 2018; East 2017)

Longer-run effects: "two-generation" benefits (contd.)

- EITC leads to increases in children's achievement (Dahl and Lochner 2012, Chetty et al 2011) and educational attainment (Bastian and Michelmore 2018; Manoli and Turner 2018)
  - Not clear if the EITC effects reflect the value of additional financial resources or the impact of increased maternal employment
  - → If financial resources, effects would likely generalize to a UB
- In the longer run, access to cash welfare in childhood leads to increases in health, educational attainment, and age at death (Aizer et al 2016).
- SNAP in early childhood leads to improvements in adult health and, for men, economic outcomes (Hoynes et al 2016).

Conclusion

- A "pure" UBI would be extremely expensive, about twice the cost of all existing transfers in the US
- Funding this would require substantial new revenue
- Source of the new funds will affect the distributional effects of the policy and its ability to target those most in need of assistance
  - In particular, replacing existing anti-poverty programs with a UBI would be highly regressive
- Can predict the effects of a UBI on labor supply, income and family wellbeing from existing research

The end!

Thanks again and have a great fall break!

- Keep me posted on what you are up to
- Send me interesting articles/ debate suggestions
- I post nerdy econ policy articles on Twitter @omzidar

Thanks for a great class!

Appendix

1. In-work programs

- Designed to transfer resources to low income individuals while encouraging labor supply
- Typically phased in, reach a maximum, and then are phased out
  - $\Rightarrow$ M, S, P and T are non-zero; $G = 0$, as non-workers are not eligible for the transfer
- Examples:
  - EITC: eligibility E close to universal for families with children, but subsidy rate S and maximum M vary by marital status and number of children; small benefit and limited eligibility if childless
  - CTC: similar aggregate cost to EITC, but less income targeting; TCJA raised M and P

2. Cash welfare

- Provide an income floor ($G > 0, S = 0$, and $M = G$)
- Common to have zero or low P and high T that ensure benefits fully phase out at relatively low earnings levels
- Tightly restricted eligibility in the US (mainly limited to single mothers, the disabled, and the elderly)
- Examples:
  - AFDC (Aid to Families with Dependent Children) provided cash welfare prior to 1996 reform
  - TANF (Temporary Assistance to Needy Families): replaced AFDC and imposed stricter work requirements and lifetime program receipt limits
  - General Assistance (GA), such as SNAP

3. Cash welfare for individuals unable to work

- Most countries have separate cash welfare programs for those deemed medically unable to work, such as the disabled or low-income elderly
- Goal is to provide an income floor without necessarily encouraging labor supply $\Rightarrow$ $G > 0, S = 0, M = G$
- Examples:
  - Supplemental Security Income (SSI): more generous than AFDC/TANF
  - Social Security Disability Insurance (SSDI): based on past earnings and restricted to those deemed medically unable to work ($G > 0, S = 0, M = G, P = 0$, and $T \to \infty$)

4. Public retirement benefits

- Eligibility E for Social Security retirement benefits is achieved by satisfying rules for required years of work and reaching age 62
- Benefits are available regardless of work status ($G > 0$)
- In the most flexible form, have no phase in ($S = 0, M = G$) and no phase out ($P \to \infty, T = 0$
- Benefit levels (G) depend on earnings history

5. Child Allowance (CA)

- Income floor ($G > 0, S = 0, M = G$) typically phased out at higher incomes and more slowly than traditional cash welfare
- E limited to families with children.
- Examples:
  - Canada Child Benefit, implemented in 2016

6. Negative Income Tax (NIT)

- Single unified transfer and tax system
- In simplest form: an NIT with a linear tax schedule provides for an income floor ($G > 0, S = 0, M = G$) that is taxed away at a rate T with any positive earnings ($P = 0$)
- Marginal tax rate remains T even after income rises to the point where the benefit is entirely taxed away (at $Y = P + M/T$); individuals with incomes above that point are net taxpayers, and help to fund transfers to lower-income recipients.

Programs w/ guaranteed income and low phase-out points

Evidence from evaluations of AFDC and TANF

- AFDC reduced labor supply among single mothers by 10-50% relative to what would be seen without the program (see reviews by Danziger, Haveman and Plotnick 1981; Moffitt 1992, 2003; and Hoynes 1997)
  - Low labor supply for non-AFDC recipients ($\approx$ 20 hours / week including non-workers) $\rightarrow$ reduction in hours small in magnitude
  - Limited eligibility and stigmatized participation $\rightarrow$ participants were likely people who highly valued the benefit $\rightarrow$ impact on labor supply likely smaller than with a more universal program

Programs w/ guaranteed income and low phase-out points

Evidence from evaluations of NIT

1. US Income Maintenance Experiments (IMEs):
   - In mid-1970s, random assignment of low-income households into combinations of base transfers (G), tax rates (T), for $P = 0$
   - Substitution elasticities $\approx$ 0.1-0.2 (at the low end for husbands, a bit higher for single women, and higher for married women) (Robins 1985)
   - Income elasticities around -0.1 (Robins 1985)
   - IMEs lasted for just a few years $\rightarrow$ some of the labor supply response may reflect intertemporal substitution $\rightarrow$ estimated responses may overstate effects
2. Manitoba Basic Annual Income Experiment ("Mincome")

Programs w/ guaranteed income and low phase-out points

Evidence from evaluations of NIT

1. US Income Maintenance Experiments (IMEs):
2. Manitoba Basic Annual Income Experiment ("Mincome")
   - NIT in Manitoba, CA
   - Estimated effects on labor supply were negative but small and statistically insignificant (Hum and Simpson 1993)
   - Recent non-experimental study based on the Mincome "saturation site," a rural town where all residents were eligible for payments, finds much larger negative effects on labor supply (Calnitsky and Latner, 2017)

Programs w/ guaranteed income and low phase-out points

Evidence from transition from AFDC to TANF

1. Prior to the federal reform: experiments based on state waivers to the AFDC restrictions
2. Studies of these waiver experiments and non-experimental evidence on the national transition: $\uparrow$ in labor supply, $\downarrow$ in welfare participation payments, and $\Delta \approx 0$ in income (Moffitt 2003, Ziliak 2016)
3. TANF increased labor supply by limiting benefits for non-workers
4. Welfare waivers that increased work disregards caused increases in labor supply and family income

In-work tax credits (EITC)

- EITC increases in employment of single mothers with little evidence of reductions in earnings for those in the labor market (Hotz and Scholz 2003; Eissa and Hoynes 2006; Nichols and Rothstein 2016)
- Gains in earnings combine with the credit to increase family after-tax income and reduce poverty
  - Among single mothers with less than a college degree, a $1,000 increase in EITC benefits leads to a 7.4 pp increase in employment and 8.4 pp reduction in poverty (Hoynes and Patel, forthcoming)
- EITC leads to positive effects on maternal mental and general health (Evans and Garthwaite 2014)