

Tax Policy and Inequality

Applications

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Outline

Overview: EITC

Refunds and Withholding

Advance EITC

What is the EITC?

Life's a little easier with



What is the EITC?

- ▶ Income tax policy aimed at low-income wage earners
- ▶ Subsidizes wages in order to: (1) redistribute income and (2) increase labor supply
- ▶ Single largest cash anti-poverty program
- ▶ Over an initial phase-in: the more you earn, the more you get
- ▶ Credit plateaus: credit remains constant as you earn more
- ▶ Over a phase-out range: the more you earn, the lower your credit

What is the EITC?

- ▶ For TY 2015: 26M households received the EITC
- ▶ EITC credits totalled \$65.6B
- ▶ Average EITC amount was \$2,482
- ▶ EITC participation rate is about 80% (TY 2013)
- ▶ 2017 Max Earnings: \$15,010 (single + no kids) - \$53,930 (married + 3 kids)

What are the effects of EITC?

- ▶ Labor supply incentives are ambiguous
 - ▶ Makes working more attractive, relative to not working
 - ▶ Could make increasing hours more attractive, or less
- ▶ Empirical Evidence (Nichols and Rothstein, 2016)
 - ▶ Influences people to work more
 - ▶ Some secondary earnings may scale back
- ▶ More subtle effect:
 - ▶ Could lower wages for non-EITC recipients

What are the effects of EITC?

- ▶ General evidence suggests EITC raises many out of poverty (Hoynes and Patel, 2017)
 - ▶ Official poverty measures may overstate poverty by 15-25% by not including EITC
- ▶ In general, positive effects on:
 - ▶ health, mental health
 - ▶ children's health, educational outcomes

What are the effects of EITC?

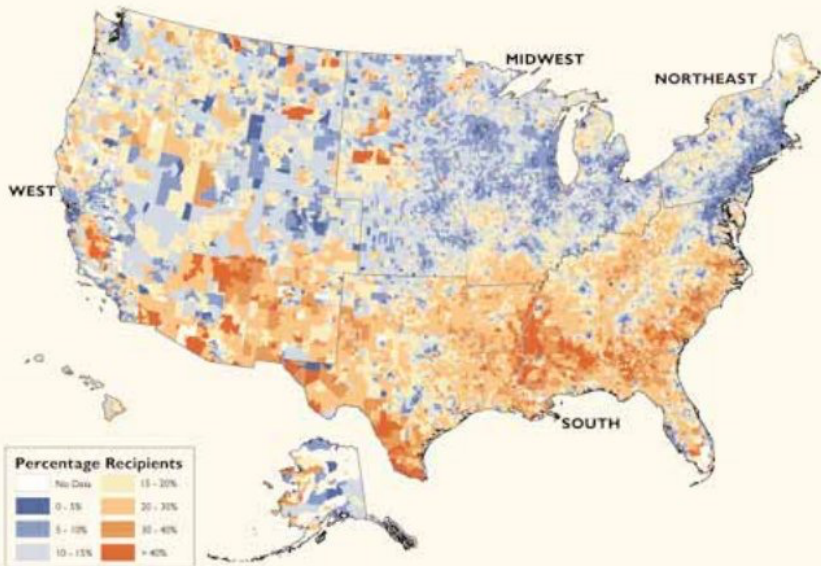
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Political Economy

- ▶ Rare transfer to low-income workers that has support across political spectrum
- ▶ Could be in part based on the notion that the working poor are more deserving than the non-working poor
 - ▶ Could be due to norms, or due to positive spillovers of working
 - ▶ Potentially ignore value of home production (e.g. parenting)
- ▶ Those who cannot work do not receive the EITC (no safety net)
- ▶ Some barriers to expansion based on stigma of government benefits and stereotypes of usage patterns

Political Economy

Figure 5. EITC Recipients as a Percentage of Total Returns by Zip Code, TY 2001

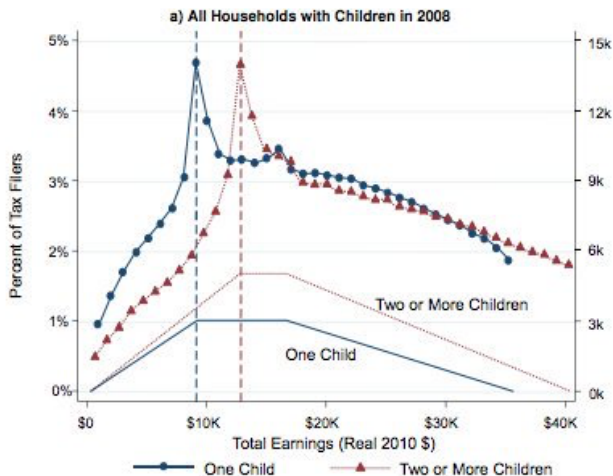


Compliance

- ▶ The Path Act included a delay in delivering the EITC, for fear of tax evasion
 - ▶ One of the largest sources of incorrect claiming: dependents (20%)
 - ▶ Commonly thought to be driven by misinformation, but anecdotes of optimal claiming exist
- ▶ However, another 20% don't claim the EITC even though they are eligible (Bhargava and Manolie, 2015)
- ▶ Another clear source of incorrect claiming: self-employed

Compliance

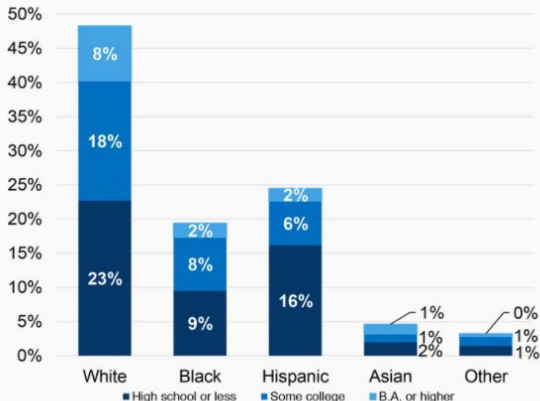
Aggregate Earnings Distributions for EITC-Eligible Tax Filers



Take-Up (Kneebone (MPP '03) and Murray, 2017)

Figure 1. Composition of EITC-Eligible Tax Filers by Race and Educational Attainment

TY2015



Source: Brookings Institution analysis of ACS data

Take-Up (Maggie Jones, 2014)

Group	2005	2009 (Recession)
Women	80%	82%
Men	72%	76%
White	77%	78%
Black	78%	82%
Other	74%	82%
Non-Hispanic	76%	81%
Hispanic	82%	72%

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Pop Quiz: Why Withholding?



California's Withholding Increase

- ▶ On November 1, 2009, California increased wage withholdings by 10 percent
- ▶ There was no concurrent increase in actual tax liability
- ▶ This amounted to an interest free "payday loan" to the state government
- ▶ Many taxpayers did not know that they could opt out of the contract

Withholdings and Salience

- ▶ The California example highlights 3 observations
 1. Income tax withholdings are not very salient to a significant share of taxpayers
 2. Lawmakers can use this fact to reach certain policy goals
 3. The effect of these policies can vary dramatically depending on one's awareness and knowledge of the withholding system

The U.S. Income Tax Withholding System

- ▶ Since 1943, income taxes have been "paid-as-you-earn"
 - ▶ Increased compliance
 - ▶ Reduce the "pain" of raising war time taxes
- ▶ Withholdings can be adjusted by the employee, using a W-4 form
- ▶ Overwithholding is not paid back interest, but underwithholding is charged a penalty
 - ▶ Withholding is a balancing act

Policy Implications

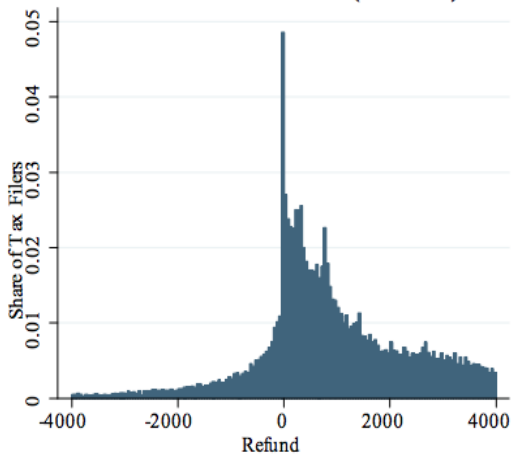
- ▶ Private Sector Responses
 - ▶ Raise prices
 - ▶ Subprime car loans
 - ▶ Tax preparation and financial products
- ▶ Nonprofit Response
 - ▶ Savings encouragement
 - ▶ Bundling of services
 - ▶ Free tax preparation
- ▶ Research Response
 - ▶ Data-rich environment
 - ▶ Large stake decisionmaking
 - ▶ Surveys, experiments, etc.

Empirical Facts about Withholding

- ▶ 73% of taxpayers received refunds in 2016, on average \$2,857
- ▶ Overwithholding is a "safe" but costly bet
 - ▶ Forgo interest or incur finance charges on debt
 - ▶ Have less cash on hand for emergencies
- ▶ Possible explanations include risk aversion and forced savings
- ▶ Taxpayers do not frequently adjust their withholdings
 - ▶ Policies such as the one in California are likely to "stick"

Distribution of Refunds

A. Distribution of Refunds (Balances)

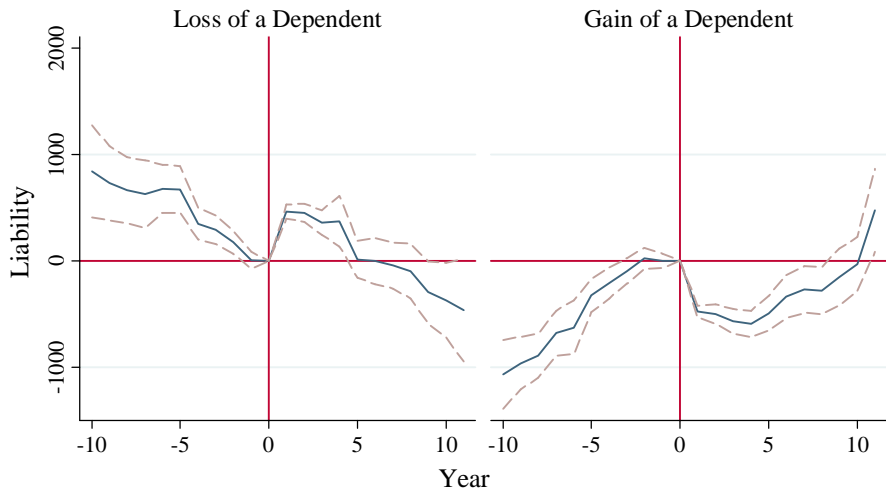


What's Driving Withholding

- ▶ Most theories of withholding involve an active decision
- ▶ However, how active are tax payers with respect to withholdings?
- ▶ We can test for this by looking at shock to the incentive to overwithhold
 - ▶ Change in dependents
 - ▶ Change in exogenous policy
- ▶ Jones (2012), "Inertia and Overwithholding: Explaining the Prevalence of Income Tax Refunds"

Withholding and Dependents

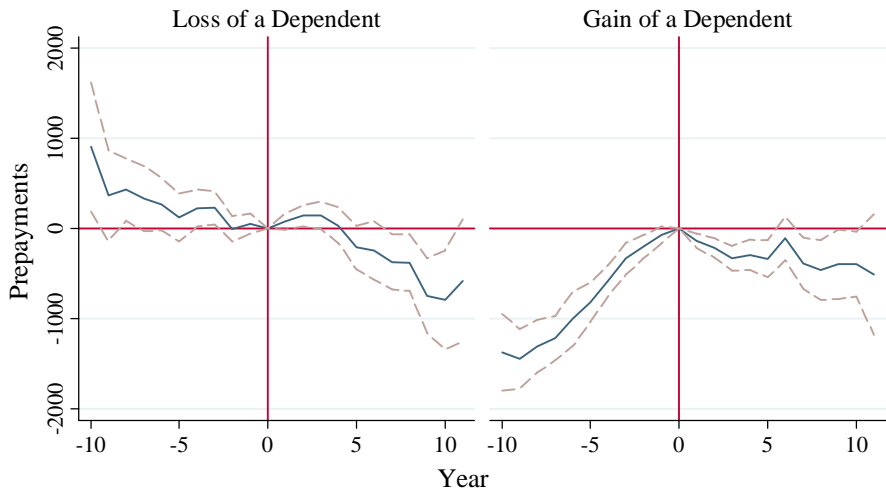
Adjusted Tax Liability



— Point Estimate - - - 95% Confidence Interval

Withholding and Dependents

Adjusted Prepayments



Withholding-Based Policies

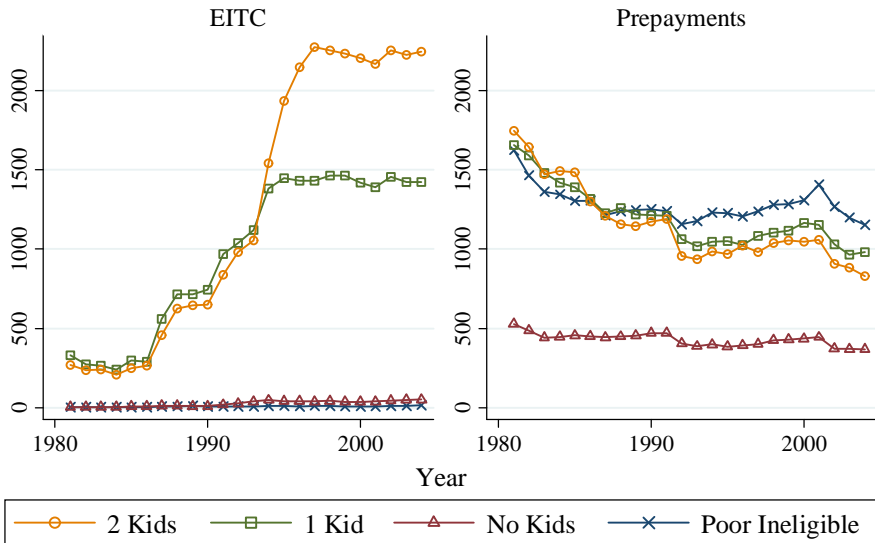
- ▶ 1992 Presidential Executive Order reduced withholdings, with no change in tax liability
 - ▶ The hope was that this may spur consumption
 - ▶ Survey evidence suggests that this was partially true
- ▶ ARRA 2009: Making Work Pay Credit
 - ▶ Alternative to stimulus rebate checks
 - ▶ Hypothesis is that this less salient stimulus would be spent more than a one-time payment
 - ▶ Recent survey suggests that this may not have been the case, but is not conclusive

Disproportionate Burden

- ▶ The effects of withholdings policies will be largest for the groups that exhibit the most inertia
- ▶ Evidence suggest that lower income households are more inert
- ▶ Ironically, this is the group for whom it may be the most costly to overwithhold

Disproportionate Burden

EITC Level vs. Prepayments



Additional Explanations of Refunds

- ▶ Forced Savings?
 - ▶ Feldman (2010): After 1992 reduction in withholding, lower likelihood of saving in an IRA account
- ▶ Loss Aversion
 - ▶ Rees-Jones (2017): Those with a balance due are more likely to engage in tax avoidance and evasion behavior

Outline

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Refunds and Withholding

Advance EITC

Advance Earned Income Tax Credit

- ▶ Receive a portion of the EITC early, with each pay check
- ▶ Up to 60% of the max for one child
- ▶ Remainder is paid with tax refund
- ▶ If ineligible ex post, must pay back

Reasons for Low Take-up

- ▶ Take-up rates 2-4%
- ▶ Possible reasons
 - ▶ Transaction costs, stigma, information, risk aversion, forced savings

IRS Experiment

- ▶ 6 million tax payers in an RCT
- ▶ Treatment group twice as likely to use AEITC
 - ▶ Take-up from .5% to 1.3%

CEP Survey 2005

- ▶ 72.5% expected to receive a refund
- ▶ 44.5% use to pay off past bills
- ▶ 30% aware of the Advance EITC
- ▶ 90% still prefer a lump sum refund
- ▶ Expect to use future refund to again pay off past bills?

Advance EITC Experiment 2006

- ▶ Large employer (80K employees, retail sector)
- ▶ Vary information and ease of enrollment
- ▶ Offer subset option to open 401(k) as well

Advance EITC Experiment 2006



THE ADVANCE EARNED INCOME TAX CREDIT



THE ADVANCE EARNED INCOME TAX CREDIT AND 401(k) SAVINGS PLAN

Get Next Year's REFUND In This Week's PAYCHECK

What is the Advance EITC?

Boost your take home pay by as much as \$30 each week by filing for the Advance EITC. This tax credit allows associates who are raising at least one child to get a part of their tax refund earlier, with each paycheck. You receive the rest when you file your tax return.

How do I sign up?

1. Verify your eligibility
2. Complete the attached W-5 form
3. Submit the W-5 form to your Operations Manager

You can sign up for the Advance EITC at anytime.



Get Next Year's REFUND In This Week's PAYCHECK & Start Saving For RETIREMENT

What is the Advance EITC?

Boost your take home pay by as much as \$30 each week by filing for the Advance EITC. This tax credit allows associates who are raising at least one child to get a part of their tax refund earlier, with each paycheck. You receive the rest when you file your tax return.

PLUS: Put your Advance EITC payment into a 401(k) Savings Plan and start saving for retirement without lowering your paycheck!

How do I sign up?

1. Verify your eligibility
2. Complete the attached W-5 and Easy Enrollment forms
3. Submit the forms to your Operations Manager

You can sign up for the Advance EITC at anytime.



Advance EITC Checklist

- You expect to earn less than \$32,000 this year, or \$34,000 if you are married filing jointly
- You have at least one qualifying child (See attached W-5 form)
- You expect to qualify for the EITC (See attached W-5 form)

If you have checked all boxes, you qualify!

Things to Remember:

- If you become ineligible for the Advance EITC, you must hand in another W-5 form to stop the payments.
- You can only receive Advance EITC payments from one employer.
- If you are married, and your spouse is working, you both must hand in a W-5 form.
- If you receive the Advance EITC, you must file a tax return next year.
- You must renew the Advance EITC at the beginning of every year if you wish to continue the payments.
- Bottom line, be sure that you are eligible. You will have to pay the money back to the IRS if you incorrectly receive payments!

Advance EITC Checklist

- You expect to earn less than \$32,000 this year, or \$34,000 if you are married filing jointly
- You have at least one qualifying child (See attached W-5 form)
- You expect to qualify for the EITC (See attached W-5 form)

If you have checked the above boxes, you qualify for the Advance EITC!



401(k) Checklist

- You are at least 21 years old
- You have worked at least 1,000 hours in a given year from the first day of your employment

If you have checked these additional boxes, you may also qualify for the 401(k) Savings Plan!

Things to Remember:

- If you become ineligible for the Advance EITC, you must hand in another W-5 form to stop the payments.
- You can only receive Advance EITC payments from one employer.
- If you are married, and your spouse is working, you both must hand in a W-5 form.
- If you receive the Advance EITC, you must file a tax return next year.
- Once you have enrolled in the 401(k) Savings Plan, you remain in the program, while you must renew the Advance EITC at the beginning of every year.
- Check with your Operations Manager to find out how to combine the Advance EITC and the 401(k) Savings Plan.
- Bottom line, be sure that you are eligible. You will have to pay the money back to the IRS if you incorrectly receive payments!

Advance EITC Experiment 2006

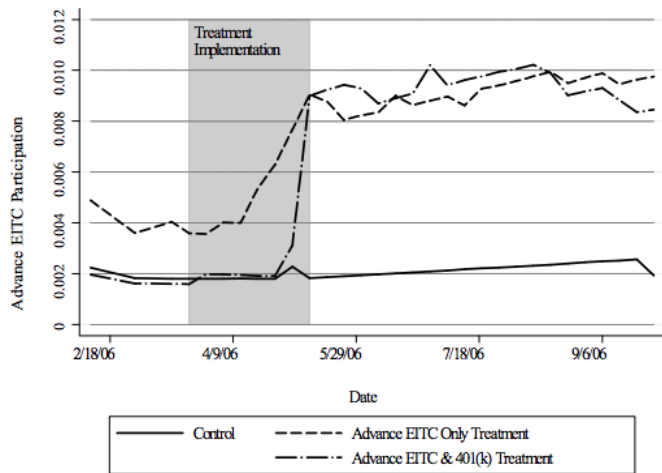
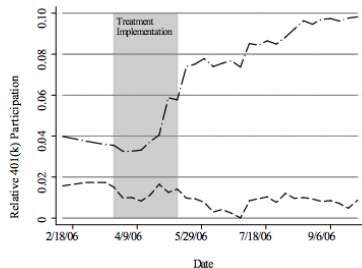
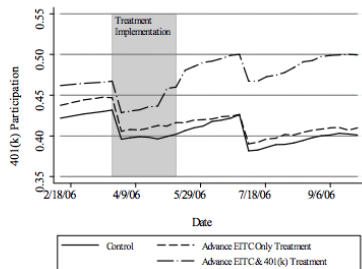


FIGURE 2. ADVANCE EITC PARTICIPATION BY TREATMENT GROUP

Advance EITC Experiment 2006



CEP Periodic Payment Pilot 2014-2015

- ▶ CEP recruited CHA residents
- ▶ Offered a subset a periodic payment of EITC
- ▶ High reported value of periodic payment
- ▶ Issues with defaulting on the advance payment

Future Work on Period Payment of EITC

CHICAGO REFUND STUDY

Home

Thank you for participating in the Chicago Refund Study. We will contact you for a follow up survey in May, September, and December of 2017. Please check back here for future updates.

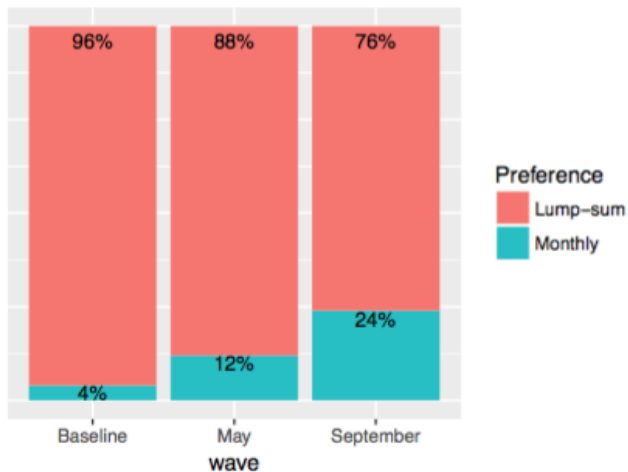
You may email any questions to ChiRefund@chicago.edu.

This study is conducted by the University of Chicago, in collaboration with the Center for Economic Progress.



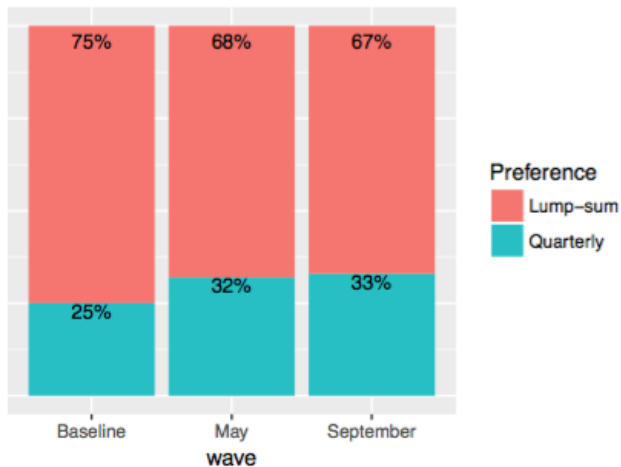
Preliminary Evidence

Preference - lump sum vs monthly



Preliminary Evidence

Preference - lump sum vs quarterly with framing



Other Proposals

- ▶ Wealth Tax (i.e. Piketty)
- ▶ Land Value Tax
- ▶ Open up to immigration
- ▶ Less IP protection
- ▶ Closing offshore tax loopholes
- ▶ Urban zoning reform
- ▶ Antitrust, both in product markets and labor markets
- ▶ Financial regulation
- ▶ Sovereign wealth funds
- ▶ **Universal Basic Income (UBI)**

Universal Basic Income

- ▶ Unconditional cash transfer to everyone in a geographic/political territory, on regular/long-term basis
- ▶ Renewed policy interest: Obama, Hillary Clinton, Benoit Hamon, experiments in Finland, Canada, and bill in Hawaii
- ▶ One concern of UBI: Labor Market Impact
 - ▶ Evidence that income transfers lead to labor supply reductions (income effect)
 - ▶ Macro impact of a UBI may be different
- ▶ Jones and Marinescu (2018): Evidence from Alaska Permanent Fund Dividend
 - ▶ Look at Alaska before and after PFD introduction
 - ▶ Compare to a "synthetic control," i.e. average of comparable states

Income Effects: Prior Literature

- ▶ Pure income effect of unconditional cash transfers: 10% increase in unearned income reduces earned income by about 1% (overview in Marinescu, 2017)
 - ▶ Negative Income Tax Experiments in the US in the 1970s (e.g. Robins, 1985; Price and Song 2016 for long-term effects)
 - ▶ Lottery winners (Imbens et al., 2001; Cesarini et al., 2015)
- ▶ In many cases, no income effect on labor supply is detected:
 - ▶ Most effects estimated from NIT insignificant, and overestimated due to income misreporting and selective attrition (Ashenfelter and Plant, 1990)
 - ▶ Eastern Band of Cherokees (Akee et al., 2010)
 - ▶ Experiments in developing countries (Banerjee et al., 2015; Haushofer & Shapiro, 2016)

Income Effects: Prior Literature

- ▶ Cash transfers are not universal within a territory: limited, if any, macro effects.
- ▶ Generally, cash transfers are temporary: e.g. NIT experiments lasted 3 to 5 years
- ▶ Eastern Band of Cherokees natural experiment is a permanent cash flow, though only mid-term effects are known.

Research Questions

- ▶ What are the impacts of universal and permanent income transfers on labor market outcomes?
 - ▶ Employment rates (extensive margin)
 - ▶ Full-time versus part-time (intensive margin)
- ▶ Why do aggregate impacts differ from micro effects of cash transfers on labor supply?
- ▶ Use Alaska Permanent Fund Dividend to answer these questions

Institutional Context

- ▶ 1970s: Alaska experienced large uptick in revenue from oil extraction on state-owned land
- ▶ \$900 million sale of an oil lease in 1969 was mostly spent down by the state in the subsequent years
- ▶ Alaska Permanent Fund created in 1976 to diversify income stream, constrain government spending, and share revenue with future generations
- ▶ The Alaska personal income tax was also abolished in 1980
- ▶ Dividend disbursement started June 14 1982
- ▶ Hsieh (2003) and Kueng (2015) have used the dividend payment to test permanent income hypothesis

Method: Synthetic Control

- ▶ Abadie, Diamond, & Hainmueller (2010)
- ▶ Panel of $S + 1$ states, Alaska is $s = 0$
- ▶ T time periods, with $t = T_0$ last pre-treatment period
- ▶ Potential outcomes framework:

$$y_{st}(0) = \delta_t + \theta_t Z_s + \lambda_t \mu_s + \varepsilon_{st}$$

$$y_{st}(1) = \alpha_{st} + y_{st}(0)$$

Method: Synthetic Control

- ▶ The treatment effect for Alaska ($s = 0$) in period t is calculated as:

$$\hat{\alpha}_{0t} = y_{0t} - \sum_{s=1}^S w_s^* \cdot y_{st}$$

- ▶ Weights are constrained to add to 1
- ▶ Weights are chosen to minimize distance between Alaska and controls in pre-treatment characteristics and outcomes
- ▶ We match on average outcome, share of women, education, age, and industry mix

Method: Synthetic Control

- ▶ We report the average difference between the treatment unit and the synthetic control over the post period:

$$\hat{\alpha}_0^{SD} = \frac{1}{T - T_0} \sum_{t=T_0+1}^T \hat{\alpha}_{ot}$$

- ▶ We use a permutation method to assess quantitative significance and construct confidence intervals
- ▶ We focus on outcomes for which a reasonable pre-period fit (RMSE) is attainable

Data

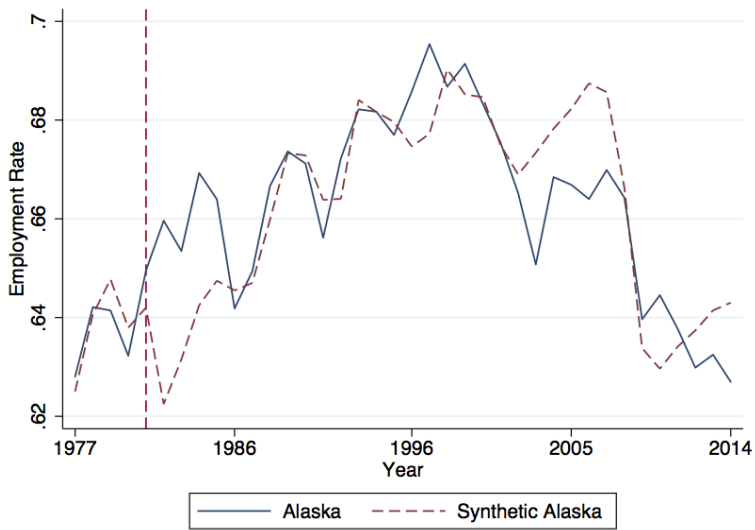
- ▶ Alaska only available as separate state in basic CPS since 1977
- ▶ IPUMS CPS 1977-2014 for employment to population, active labor force participation, and part-time work
- ▶ NBER CPS MORG 1979-2015 for hours worked last week among the employed
- ▶ Yearly data, July to June since first dividend payment was on June 14 1982. E.g. 1979 is July 1979 to June 1980
- ▶ Data is collapsed by year and state, using weights

Employment Results

Table : State Weights for Synthetic Alaska: Employment

State	Weight
Utah	0.428
Wyoming	0.342
Washington	0.092
Nevada	0.079
Montana	0.034
Minnesota	0.025

Universal Basic Income: Jones and Marinescu (2018)



Employment Results

Table : Synthetic Control Estimates, Average Difference 1982-2014

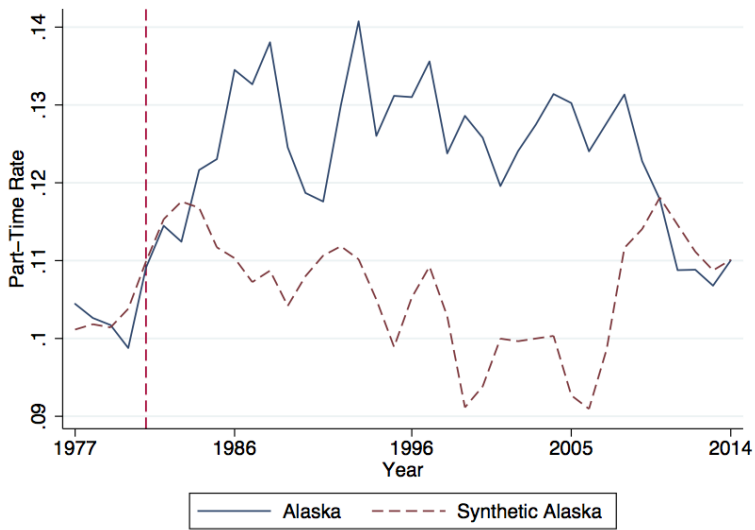
	(1)	(2)
	Employment Rate	Labor Force Participation
$\hat{\alpha}_0$	0.001	0.012
<i>p</i> -value	0.942	0.335
95% CI	[-0.031,0.032]	[-0.021,0.042]
Number of placebos	1,836	1,836
Pre-Period RMSE	0.0053	0.0125
RMSE Percentile	0.095	0.568

Part-time Results

Table : State Weights for Synthetic Alaska: Part-Time Workers

State	Weight
Nevada	0.729
Wyoming	0.160
Louisiana	0.060
Maryland	0.033
District of Columbia	0.019

Universal Basic Income: Jones and Marinescu (2018)



Part-time Results

Table : Synthetic Control Estimates, Average Difference 1982-2014

	(1)	(2)
	Part-Time Rate	Hours Worked Last Week
$\hat{\alpha}_0$	0.018	-0.617
p -value	0.025	0.156
95% CI	[0.004,0.032]	[-1.577,0.324]
Number of placebos	1,836	1,734
Pre-Period RMSE	0.0027	0.3613
RMSE Percentile	0.105	0.279

Tradeable vs. Non-tradeable Sectors

Table : Synthetic Control Estimates, Average Difference 1982-2014, by tradability

	(1)	(2)	(3)	(4)
	Tradable		Non-Tradable	
	Employment Rate	Part-Time Rate	Employment Rate	Part-Time Rate
$\hat{\alpha}_0$	-0.047	0.019	0.005	0.000
p -value	0.020	0.098	0.569	1.000
95% CI	[-0.074,-0.026]	[-0.007,0.046]	[-0.016,0.027]	[-0.061,0.038]
Number of placebos	51	51	51	51
Pre-Period RMSE	0.0621	0.0109	0.0441	0.0121
RMSE Percentile	1.000	0.804	1.000	0.608