14.472 Public Finance II

Redistribution: Takeup and Self-Targeting

Amy Finkelstein

Fall 2025

Incomplete take-up is widespread

- Take up: Share of eligibles who receive benefits
- Well-documented that take-up of social transfers is incomplete
- Key questions:
  - Descriptive: Why is take up low?
  - Normative: Is low take up a "problem"?
    - Should anything be done about it and if so, what?

Estimating take-up

- Nice overviews: Currie (2006); Ko and Moffitt (2022)
- Measurement is a huge challenge:
  - Numerator and denominator often measured separately
  - Numerator: Self-reported enrollment may have elicitation bias
  - Denominator: challenging to measure (detailed eligibility requirements)
  - Measuring denominator in the same time period as numerator is also challenging

Take-up estimates in US

Table 1 Take-up rate of social benefits in the USA

Date	Program	Take-up rate	Notes	Reference
1995	AFDC/ TANF	82%		Falk (2017)
2012		28%	Reform took place in 1996	
2005-2009	EITC	77–81%	Includes nonfilers in eligibles	Jones (2013)
2009	Medicaid	67% for adults, 84% for children	Uninsured eligibles only	Kenney et al. (2012)
2014–2017		46% for adults, 65% for children	Insured and uninsured eligibles	Decker et al. (2022)
1996	SNAP	65% for household level, 69% for individual level		USDA (2022)
2019		84% for household level, 83% for individual level		
2015	Housing Assistance	21%	Rationed program	Kingsley (2017)

Descriptive and Normative: Overview

- Descriptive: Why are take-up rates $<< 1$? Three main classes of explanations:
  - Take-up costs are non-zero ("ordeals")
  - Lack of information (especially misperception but also mental health or procrastination)
  - Stigma (can be construed as a classical "ordeal")
- Normative analysis of take-up
  - Neoclassical ordeals (e.g. Nichols and Zeckhauser, 1982)
  - Behavioral biases ("bandwidth"): Bertrand et al., 2004; Mullainathan and Shafir 2013

Main classes of explanations for incomplete take-up

- Three main "buckets" of explanations:
  - Transaction costs associated with enrollment (time costs, hassles / disutility)
  - Informational barriers to takeup (eligibility, benefits, application process)
  - Stigma associated with participation or application (could be a form of transaction cost)
- Cross-cutting question: optimizing or non-optimizing agents?
  - optimizing models:
    - take-up if expected benefits $>$ expected cost (with rational expectations)
    - no \$5 bills on the sidewalk
  - non-optimizing models

Lecture Overview

- Transaction costs
  - Theory: neoclassical ordeals
  - Evidence:
    - Impact of ordeals on enrollment
    - Who is the marginal person deterred (groping toward normative)
- Information frictions: Evidence
- Welfare analysis of transaction costs and information frictions (Fink & Noto '19)
- Stigma: Limited theory and evidence
- New perspectives:
  - Average vs. marginal enrollees (Rafkin, Solomon and Soltas 2024)
  - Heterogeneity in costs (not just value) of benefits (Shepard and Wagner 2025)

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Normative interpretation of incomplete take-up

- Is 100 percent take up the goal? Two views:

- **Transfers as entitlements:** Optimal take-up rate is 1 by assumption
  - Eligibilty rules ensure that social planner wants to transfer to everyone eligible
  - Ordeals constitute an administrative burden and should be eliminated (Herd and Moynihan 2018 "Administrative Burden: Policymaking by Other Means.")

- **Incomplete take-up as mechanism design problem** (Mirleesian view)
  - Transfer programs add value to tax system only if they relax an IC constraint
    - Idea: fixing the budget, targeting programs to the neediest among eligibles can achieve more redistribution
    - If take-up is 1 then they are a (negative) tax but costly to administer
    - Costs and benefits of relaxing IC constraint become an empirical question

Example: Nichols and Zeckhauser, 1982

- Nichols and Zeckhauser (1982)
  - Already covered (graphically)
  - Will now cover alegraically

- Idea: Want to redistribute based on an unobserved characteristic (e.g. ability).
  - If demand for specific goods is correlated with unobserved characteristic, can transfer more efficiently by sacrificing productive efficiency
  - Exploit single crossing feature: people of different ability have different marginal utility (disutility) from specific goods

- Previous example: in kind vs cash transfers
- Now consider: pure deadweight costs - "ordeals"

Self-targeting: Ordeals

- NZ (1982) implies may be optimal to have "ordeals" in transfer programs: i.e. pure deadweight cost e.g.
  - Tedious administrative procedures
  - Stigma
- May enhance target efficiency if benefits from transfers vary across potential recipients
  - Suppose intended get 100 utils from transfer
  - Suppose imposters get 10 utils
  - Then ordeal that imposes an 10 util loss in order to qualify for the transfer would be an effective screening device
- Example: make people fill out lots of forms / wait in long lines to apply
  - Pure deadweight loss / ordeal
  - Nevertheless, may be a good screen for those whose marginal utility of receipt is low

Set up

(Courtesy of Charlie Rafkin '24)

- Two types $\theta \in \{H, L\}$, pop. normalized to 1, share of each s_θ, benefit B
- Money-metric benefit utility $u_\theta(B)$, with overall utility $U_\theta = u_\theta - c$
  - where c is the ordeal: a (real) cost of take-up (private cost = social cost)
- Utilitarian social welfare with social cost of B: $u_L(B) > B > u_H(B)$
  - Obtains if B is financed w/ lump-sum tax on average hh with welfare weight of 1
- **Implication**: In first best, government transfers B to L and not to H
- Individuals take up if $u_\theta(B) > c$, write $\mathbf{1}_\theta := \mathbf{1}(u_\theta > c)$
- Social welfare is $W = \mathbf{1}_H s_H(u_H - c) + \mathbf{1}_L s_L(u_L - c) - \mathbf{1}_H s_H B - \mathbf{1}_L s_L B$

What should the government set for the ordeal (c)?

1. **Complete take-up**: $c = 0$, so social value is:

$$W_{\text{Complete}} = s_H u_H(B) + s_L u_L(B) - B \tag{1}$$

2. **Incomplete take-up (Separating):** $c = u_H$, so social value is:

$$W_{\text{Sep}} = s_L[\underbrace{u_L(B) - u_H(B)}_{\text{social value}} \quad \underbrace{-B}_{\text{social cost}} \ ] \tag{2}$$

3. **No program:** $c = \infty$, so social value is $W_{\text{NoProg}} = 0$

- **Incomplete take-up** is optimal $\iff$ $W_{\text{Sep}} > W_{\text{Complete}}$ and $W_{\text{Sep}} > 0$
  - $\iff$ $s_H B - u_H > 0$ and $u_L - \underbrace{u_H}_{\text{ordeal cost}} - B > 0$
  - (first term: relative to complete takeup, incomplete takeup produces fiscal savings of $s_H B$, dwl for L of $s_L u_H$and lost utility for $H$of $s_H u_H$)
- **No program** can be optimal: $W_{\text{Complete}} < W_{\text{NoProg}} = 0$; $W_{\text{Sep}} < W_{\text{NoProg}}$

Lessons from Nichols and Zeckhauser (1982)

Separation: $W = s_L[\underbrace{u_L(B) - u_H}_{\text{social value}} \underbrace{-B}_{\text{social cost}}]$

- If $u_L(B) - B - \underbrace{u_H}_{\text{ordeal cost}} \gg 0$: then minor ordeal achieves lots of redistribution!
- If $u_L(B) - B - \underbrace{u_H}_{\text{ordeal cost}} < 0$: then deadweight loss of ordeal erodes social value, to the point where it's better to just have complete take-up, or no program
- Key statistics: DWL of optimal ordeal ($= u_H$) and utility wedge $\Delta u = u_H - u_L$
- **Envelope intuition**: Imagine reducing c from $c = u_H$
  - New enrollees (H) are "just indifferent" so confer *negative* social value
    - They get 0 in private utility, but they cost the government B
  - Raising take-up reduces social value to first order

Example 2: Nichols and Zeckhauser, 1982

- Now suppose utility is $U_\theta = u_\theta(B) - \beta_\theta c$, where β_θ is a fixed constant, known to govt
- Maintain benefit utility $u_L > u_H$
- To separate types, government sets ordeal which makes H indifferent: $c^* = u_H/\beta_H$.
- $W_{\text{Sep}} = s_L\Big[u_L - \underbrace{u_H\frac{\beta_L}{\beta_H}}_{=c^*\beta_L} - B\Big]$, while $W_{\text{Complete}} = s_L u_L + s_H u_H - B$
- Now: $W_{\text{Sep}} > W_{\text{Complete}} \iff s_H B - u_H\left[s_H + \frac{s_L\beta_L}{\beta_H}\right] > 0$
- As $\frac{\beta_H}{\beta_L}$ rises, that pushes toward separation, and vice-versa
- Example intuition for $\beta_H \lessgtr \beta_L$? Some versions:
  - $\beta_H > \beta_L$: time cost is higher for high type
  - $\beta_L > \beta_H$: poor people find minor hassles more costly

An alternative take on ordeals: Bandwidth

- Conjecture that $\beta_L >>> \beta_H$
- Bertrand, Mullainathan and Shafir (AEA P&P 2004)
  - Hassle costs (e.g. 36 page food stamp application with confusing question) deter the low ability people you want to transfer to
- Mullainathan and Shafir (2013) "Scarcity: Why having so little means so much"
  - Ordeals screen out those with limited "bandwidth" / consume cognitive resources
  - Poverty as a bandwidth tax: poor face many concerns and have to "tunnel" attention on a few
- Limited direct evidence on Scarcity
  - Kaur et al. (QJE 2025) "Do Financial Concerns Make Workers Less Productive?": manipulate paydays and see higher productivity after payday
- But a lot of the self-targeting literature has looked at who the marginal enrollee is as change ordeals as a way to test whether $\beta_L >$ or $< \beta_H$

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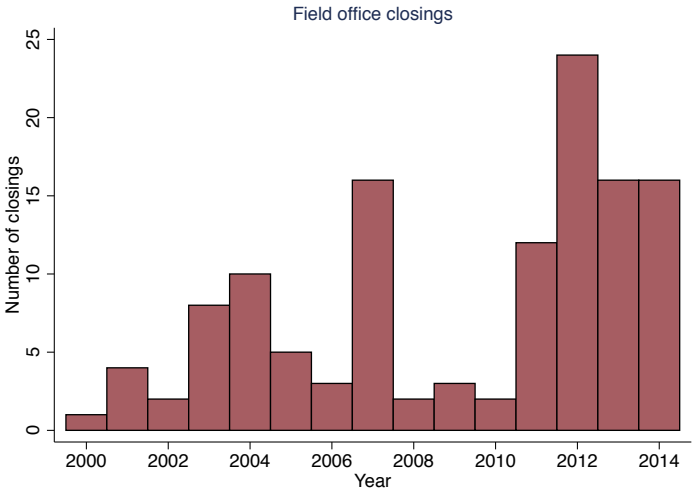
Transaction Costs: Closing of Field Offices

- Despande and Li (2019, AEJ:Policy) "Who is screened out? Application Costs and Targeting of Disability Programs"
- Natural experiment: timing of closing of 125 out of 1230 Social Security field offices between 2000 and 2014
  - apply for SSDI and SSI in field office (or over phone or on line)
  - field offices process applications
- Study how closings affect level (and characteristics) of application and enrollment
- Compelling evidence of role of "transaction costs" in deterring applications and enrollment
  - Closings produce an 11% decline in applications and 13% decline in enrollment

Identifying Variation

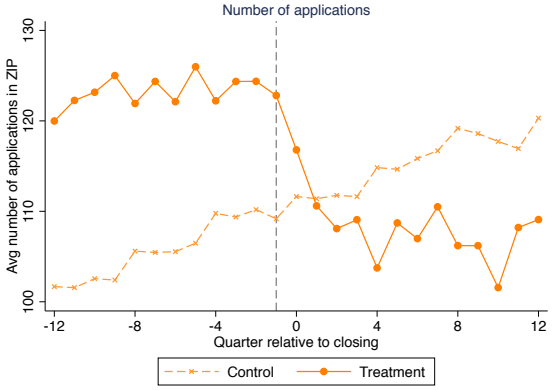
Figure 2: Timing of Field Office Closings



Source: Authors' calculations based on Social Security Administration data.

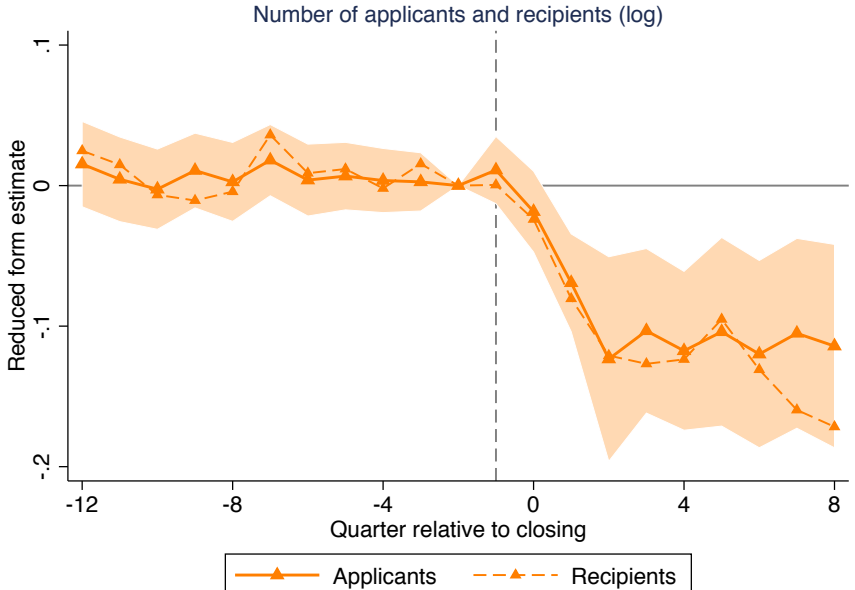
Application Trends

Figure 4: Raw Plots of Number of Applications in Control and Treatment ZIPs



Notes: Figure plots raw (non-regression-adjusted) counts of applications in control and treatment ZIPs relative to the quarter of the closing. Sample is ZIP codes whose nearest office closes after 2000 and that have an average of at least three disability applications per quarter in the year before the closing. Treatment ZIPs are ZIPs whose nearest office closes for a given closing, while control ZIPs are ZIPs whose nearest office closes in a future closing.

Impacts on Applications and Enrollment



Who Is Screened Out?

- Heterogeneous response: Closings disproportionately affect those with lower education and moderately severe conditions
- Welfare implications unclear. What do we want to target?
  - Follow on work: Despande and Lockwood (EMA 2022): Beyond Health: Non-Health Risk and the Value of Disability Insurance
    - receipt vs not of DI correlated with proxies for consumption (especially the "less severe" recipients)

Mechanism: Transaction Costs?

- Closings produce an 11% decline in applications and 13% decline in enrollment
- What is "mechanism" for decreased applications?
  - Closings increase travel time to nearest open field office by about 40 percent (10 minutes by drive; 36 minutes by public transit)
  - Evidence of congestion effect (i.e. increased walk-in time in neighboring offices)
  - Applicant time costs would have to be implausibly large to explain decline in applications
- Interpretation
  - Perhaps update about overall costs of applying?
  - Perhaps "irrational"?

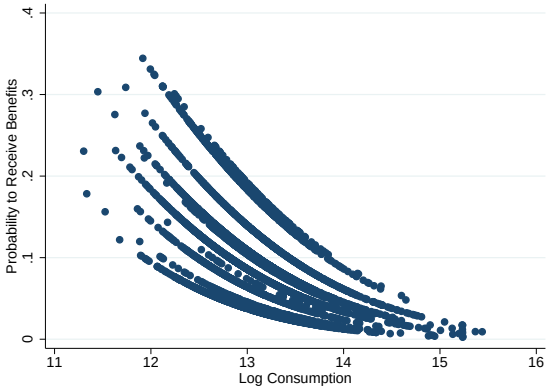
Alatas et al. (2016): Ordeals Treatment

- "Self Targeting: Evidence from a Field Experiment in Indonesia"
- Randomized evaluation across 400 Indonesian villages of different methods of enrolling in a large conditional cash transfer program
  - Targets poorest 5% of population that also meet certain demographic requirements (e.g. pregnant woman or young kid in household)
  - Cash assistance of about 4-13% of average yearly consumption
    - Requirements of school attendance, pre-postnatal checkup, and completed vaccinations

Self targeting Experiment

- Government problem: determine who is eligible
  - Status quo: automatically screen for eligibility and enroll based on easy to observe assets (size of house, materials of roof etc)
  - "Proxy means test" (Imperfect proxy)
- Experimental alternative to status quo
  - Self-targeting: households have to apply to program
    - Note: Same asset tests applied. Key difference is active applying (self-targeting) vs automatic screening
  - Within self-targeting villages, also randomly vary application costs
    - Distance: Where application site is located relative to village center (max is 1/2 day's time, which is trivial compared to benefits)
- Researchers conduct their own detailed baseline consumption survey ("truth")

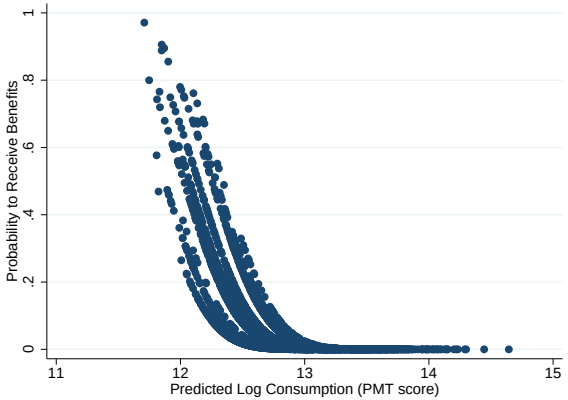
Proxy means test an imperfect proxy for consumption



(A) Probability of Obtaining Benefits vs. Log Per Capita Consumption

Shows predicted probability of receiving benefit conditional on apply (from probit model of benefit receipt on log per capita consumption)

Uncertainty about benefit receipt even conditional on proxy



(B) Probability of Obtaining Benefits vs. PMT score

Shows predicted probability of receiving benefit conditional on apply versus predicted consumption based on Proxy Means Test (PMT)

Information-based screening model

- Government program that delivers beneft b if deemed eligible
- Government wants to target transfers based on consumption (y)
- Issue 1: Government only observes a part of consumption y^o, where $y = y^o + y^u$ and observes y^o
  - y^o is the proxy means test
- Issue 2: Imperfect and costly measurement technology for y^o
  - Costly government survey / verification process to measure y^o
  - y^o measured with error - conditional on applying, probability of being deemed eligible is $\mu(y^o)$ with $\mu'(y^o) \leq 0$
    - see preceding figure: uncertainty about benefit receipt conditional on proxy (y^o)
- Note: government faces two problems:
  - Costly verification process (fiscal externality on government from individual applying)
  - Unobservables (would like to target on y, not y^0)

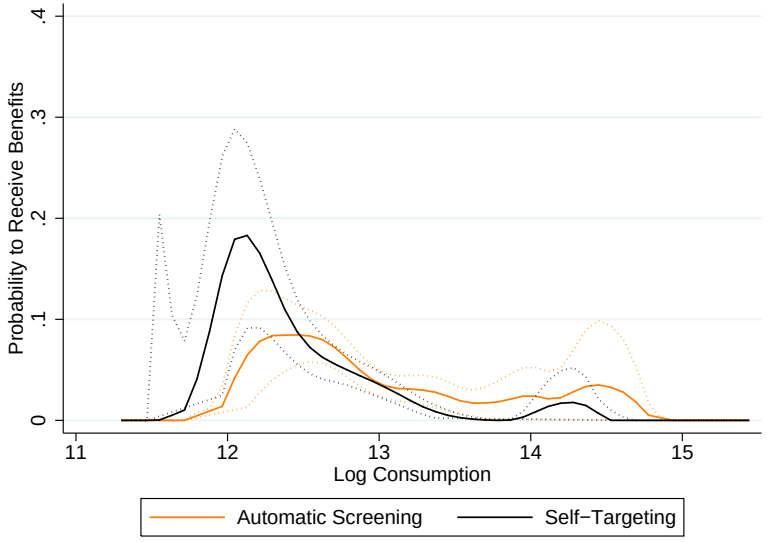
Individual's problem

- Individuals:
  - know y
  - cost to individual of applying $c(l, y)$ - l is distance to application site
- Two types of individuals
  - Sophisticated: know that eligibility is determined by $\mu(y^o)$ - i.e. depends only on observable consumption
  - Unsophisticated: do not know what government observes; but see empirical probability of someone receiving program conditional on applying $\lambda(y)$
- Individuals apply if expected benefit exceeds expected cost
  - Note that sophisticated calculates expected benefit based on y^o, unsophisticated based on y

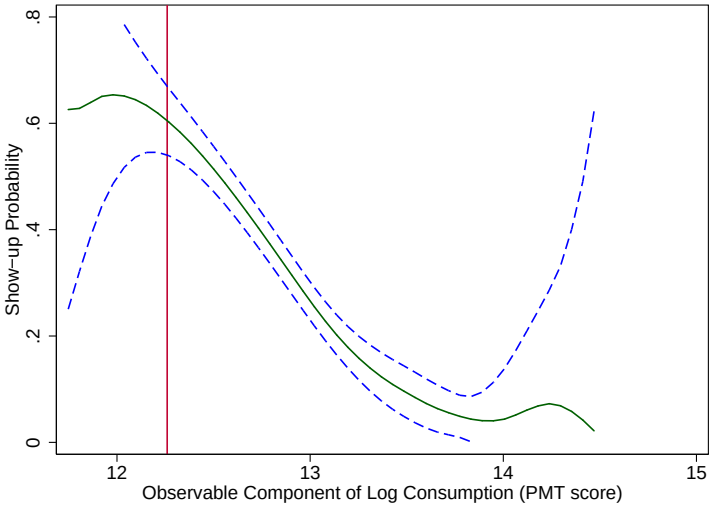
Government options: automatic screening vs. self-targeting

- Automatic screening:
  - Government incurs cost of measuring y^o for everyone and decides eligibility
- Self-targeting: people must apply before government will measure y^o and decide eligibility
- Two theoretical advantages to self-targeting:
  - Sophisticated individuals won't apply if y^o is high - reduces fiscal externality on government
  - Unsophisticated individuals won't apply if y is high - reduces fiscal externality and also improves selection on unobservable y^u

Self-targeting improves targeting

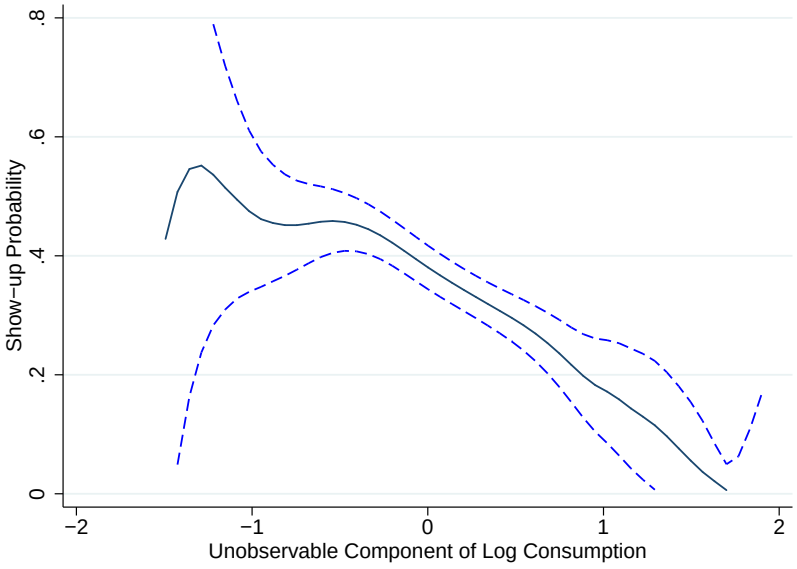


Self-targeting (applying) on observables



(A) Show Up as a Function of Observable Consumption (y_i^o)

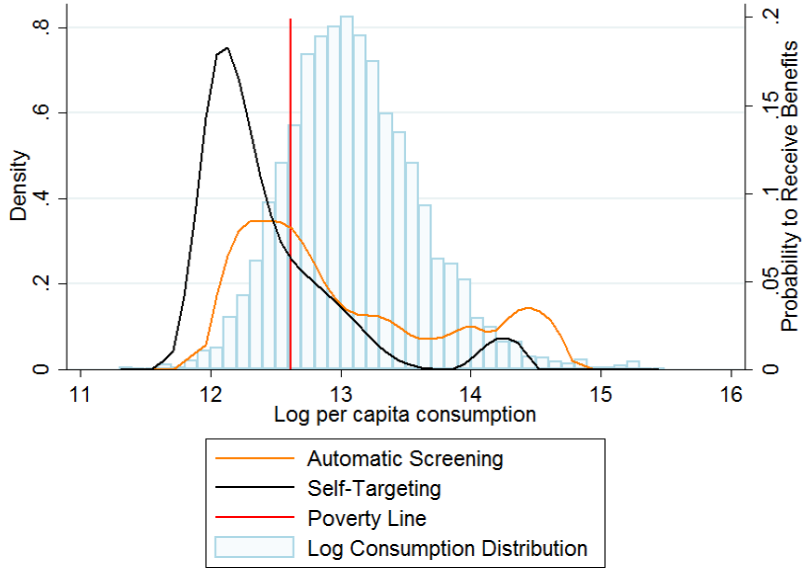
Self-targeting on unobservables (unsophisticated)



Summary of results

- Self targeting screens out higher consumption individuals relative to automatic screening
  - Savings on fiscal externality
  - Better selection on unobservables (unsophisticated self selection on y, not y^o)
- But marginal increases in application costs (via distance) do not further improve targeting (see paper). Why?
  - Long tail of people with low probability of passing screen = where mass of people are
  - So large mass of people w very small probability of receipt get weeded out by small application cost

Why additional application costs do not improve targeting



Amount of time to recertify

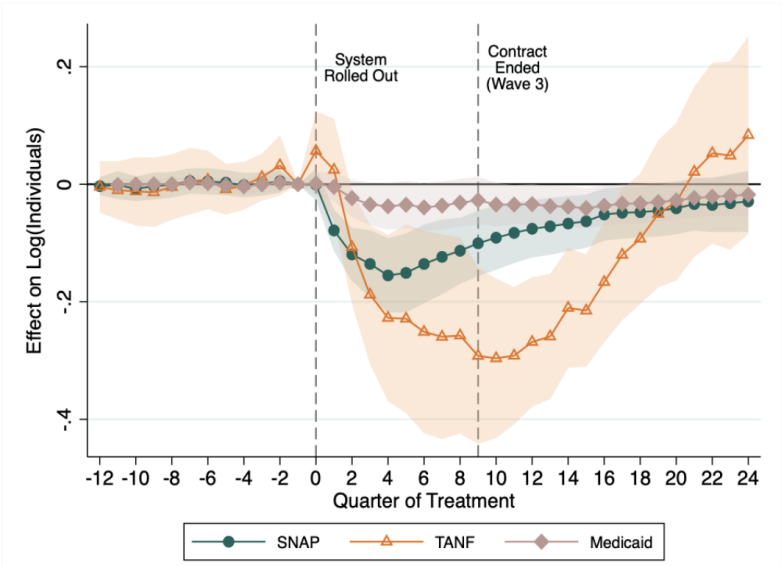
- Homonoff and Somerville 2021 (AEJ Policy): Program Recertification Costs: Evidence from SNAP
- Must periodically recertify eligibility
  - SNAP recertification requires an interview

- Randomly assigned date of interview
  - People assigned later date (less time to reschedule missed interview) have lower recertification success
  - Marginal disenrolled case similar or more needy than average
  - About three-quarters of cases that fail to recerify quickly re-enroll (implications?)

Botched roll out new technology

- Wu and Meyer (2023) "Certification and Recertification in Welfare Programs: What Happens When Automation Goes Wrong?"
- Indiana in 2007 outsources management of its welfare system to IBM
  - IBM used online and phone platforms to replace face-to-face interactions with local caseworkers
    - Less personalization, lower tolerance for errors, technical glitches, long wait times at overwhelmed call centers
  - Used for both application and recertification for Medicaid, TANF and SNAP
- Rolled out to only two-thirds of counties before halted in 2009 due to performance problems

Large impacts on enrollment



Additional richness

- Percentage enrollment decline largest for TANF, smallest for Medicaid
  - Reflects differential rates of exit (they argue due to differential recertification costs because see same pattern when they restrict to people on all three programs)
  - Declines in entry similar across programs
- Who is screened out varies across entry vs exit margin
  - Exit: screen out more needy individuals (lower income, education, higher disabilty rates, higher benefit rates)
  - Entry: screen out less needy indivdiuals

Synthesis: Ordeals

- Descriptive: "ordeals" can have non-trivial impacts on enrollment
- Evidence on targeting properties of ordeals mixed

- Needed:
  - Better understanding of when and why ordeals screen out higher vs lower "need" people
  - Measures that are closer to marginal utility of consumption vs. proxies for "need"

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Information Barriers

- Consumers may have limited information about eligibility or benefits
  - Costs involved in learning about eligibility and application rules (optimally may choose not to seek)
  - "Psychological frictions" - confusion, complexity, inattention

Information barriers: evidence (then theory)

- Informational barriers:
  - Bhargava and Manoli (2015) EITC experiment
  - Linos et al. (2024) EITC experiment
  - Anders and Rafkin (2024)
- Transaction costs and Information:
  - Bettinger et al. (2012) FAFSA Experiment
  - Dynarski et al (2021) and Burland et al. (2022): HAIL and Go Blue Experiments
  - Finkelstein and Notowigdo (2019): SNAP take-up experiment

EITC Take-up Experiment

- Bhargava and Manoli (AER 2015) "Why are Benefits Left on the Table?"
- Randomized experiment on incomplete take-up of EITC
- 25% incomplete take-up
  - 6.7 million non-claimants per year
  - Forgo on average $>$ one month's income
- Randomized experiment designed to assess various informational barriers to take-up
- Modify the information content and complexity of IRS reminder notices to 35,000 tax filers in CA who failed to claim their EITC despite presumed eligibility (*and receipt of initial reminder*)

Main experimental effects

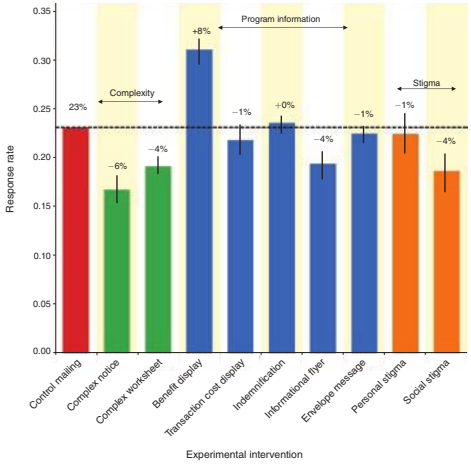


FIGURE 4. RESPONSE AND MARGINAL EFFECTS BY EXPERIMENTAL INTERVENTION

Notes: This figure depicts the response rates, and marginal treatment effects, associated with experimental interventions using estimates reported in column 1 of Table 4. The "Control mailing" refers to the simple notice and simple worksheet and reflects response averaged across the envelope and indemnity treatments.

Summary of results

- Take-up is sensitive to "frequency, salience and simplicity with which information is provided"
- Second mailing - just months after first - increases takeup by 14 percentage points!
- Nature of mailing has effects
  - Simplification (e.g. visually more appealing notice or shorter worksheet) raises enrollment from 0.14 to 0.23
    - Poorest individuals most deterred by complexity (Figure 6)
  - Stigma treatments have little effect.
    - Because they do not affect stigma or because stigma not important?

Interpretation

- Interpret results as evidence of low awareness of eligibility and benefits
  - Supplemental survey: Participants reviewed experimental interventions and then their beliefs are assessed
  - Suggests interventions shaped behavior by influencing beliefs (about eligibility and benefit size) and increasing attention paid to forms
- Difficult to rationalize with a traditional / rational model of takeup in which eligible individuals balance accurately perceived expectations of benefits and costs
  - Large impact of second notice
  - Large impact of reducing complexity or changing salience
  - Survey evidence suggested interventions increase awareness and reduce confusion
- Conclude there are "psychological frictions" and more work is needed to model and understand them

But null results from other EITC nudges

- Linos et al. (2024 AEJ): Randomize nudges to 1.5 million EITC non-filers
- Null across ∼all treatments

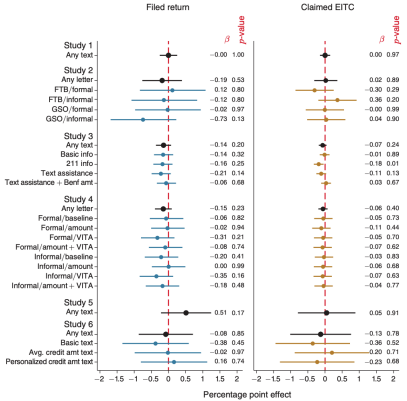


Figure 3. Effects of Outreach Treatments on Tax Filing and EITC Claiming, by Study

Comment: Learning from Null Results

- While Null?
  - Unlike Bhargava and Manoli (2015) - or Bettinger et al (2012) - sample is not limited to a population of taxpayers who are already filing a return and need to be nudged to complete an additional form
  - Suggests the large impact of "nudges" (low-cost, outreach) may not generalize to the general population of people not taking up benefits

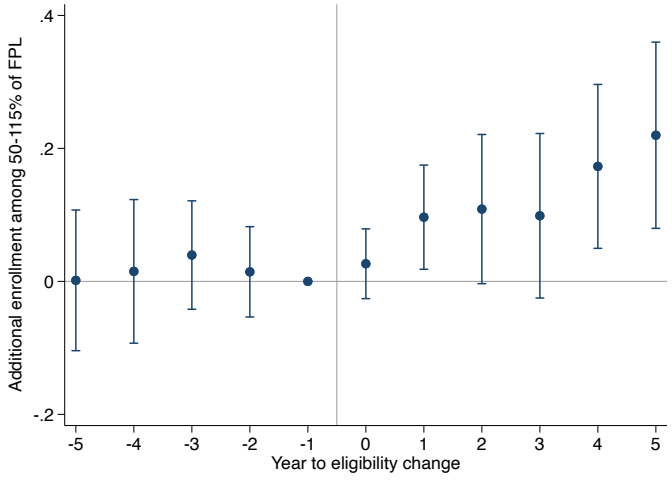
- Publishing null results: some key features that make their study successful
  - Powered to reject meaningful effects
  - Interventions thoughtfully designed & motivated by prior successful interventions and insights from behavioral economics and psychology

Expanded SNAP eligibility

- Anders and Rafkin (2024): "The Welfare Effects of Eligibility Expansions: Theory and Evidence from SNAP"
- Quasi-experimental analysis of impact of expanding income-eligiblity for SNAP on enrollment among inframarginals (always-eligibles)
  - States can choose to expand SNAP's gross income eligibility threshold above the federal minimum of 130 percent of the FPL
  - Event study design: State-year variation in these expansions
  - Main finding:
    - raising the eligiblity threshold by 10 percentage points of the FPL (e.g. from 130 to 140 percent) boosts take-up by over 1 percent among the inframarginal (always-eligibles)
    - For every person who joins SNAP because she is newly eligible, 0.9 already-eligibles join the program

Compelling evidence of 'welcome mat' effects

(B) Sample: 50 to 115% of FPL



Mechanism: Information or Stigma?

- Compelling empirical evidence that expanding income-eligibility raises enrollment among inframarginals (always-eligibles)
- Possible explanations: increased information or reduced stigma.
- Supplemental analyses suggest key role for information frictions
  - Mixed evidence for stigma: Online experiment shows that interventions that increase beliefs about share of population eligible reduces a stigma index, but null results in other experimental treatments or using other measures of stigma
  - Survey (FSPAS) evidence that demographic groups with the largest inframarginal effects are those with low levels of awareness

Information and Transaction Costs: College Aid

- Bettinger et al. (QJE 2012) "The Role of Application Assistance and Information in College Decisions: Results from the H&R Block FAFSA Experiment"
  - Randomized experiment on low-income individuals receiving tax preparation assistance
  - Examining takeup of FAFSA (Free Application for Federal Student Aid)
- Experimental design:
  - Some individuals offered personalized aid estimates and immediate assistance filing forms
  - Others just offered personalized aid estimates
  - Controls (status quo)
- Outcomes: Completing FAFSA; applying for financial aid, attending college; receiving aid at college

Summary of results

- Information + Assistance has real effects
  - Increased aid applications, college enrollment, receipt of aid, and college persistence
- Information by itself has no effect

HAIL and Go Blue Experiments

- Dynarski et al. (AER 2021) and Burland et al (AER:I 2022)
- Many low-income, high-acheiving students do not apply to selective schools even though they would be lower cost
- University of Michigan RCT in which some high-achieving, low-income high school seniors receive an early commitment of four years free tuition if they apply and are admitted
  - 90 percent would typically get free tuition anyway so commitment is fairly cheap
- Findings: huge effects on applications, admissions and enrollment

Guaranteed Free Tuition: Results

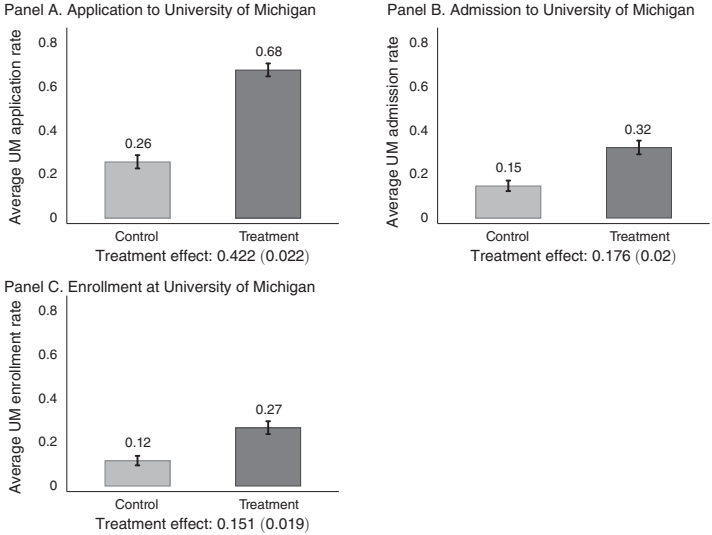


FIGURE 4. ESTIMATED EFFECT OF HAIL SCHOLARSHIP ON UNIVERSITY OF MICHIGAN

Possible explanations

- Why does guaranteed free tuition (vs 90 percent chance of getting it) make such a difference?
  - Especially since earlier interventions had found such 'light touch' interventions were not that effective
- Possible explanations:
  - Information / salience
  - Guarantee (the "power of certainty")
  - Reduced transaction costs (don't need to fill out forms to verify income and assets)
  - Timing: learn about early (before applying)
  - Higher expected benefit

Motivates second experiment

- Three arms: HAIL, Go Blue, and Control
- Go Blue: Information (sent at same time) about the availability of full tuition coverage if meet income requirements
- Go Blue and HAIL are similar on salience and timing but HAIL has guarantee, lower transaction costs, and (slightly) higher expected benefits
- Findings:
  - Both treatment arms increase applications, although HAIL has much larger effect: 63 percent vs 43 percent vs 35 percent
  - HAIL increases enrollment (26 percent vs 17 percent in control) while Go Blue has no detectable effect
- Interpretation: The guarantee was critical ("the power of certainty")
  - Argue that given other estimates of elasticity of application wrt aid, not plausibly due to small differences in expected aid
  - Argue that lower hassles unlikely important since almost all enrolled students in all arms submit FAFSA forms

Lecture Overview

- Take-up costs
  - Theory: neoclassical ordeals
  - Evidence:
    - Impact of ordeals on enrollment
    - Who is the marginal person deterred (groping toward normative)
- Information frictions: Evidence
- **Welfare analysis of transaction costs and info frictions (Fink & Noto '19)**
- Stigma: Limited theory and evidence
- New perspectives:
  - Average vs. marginal enrollees (Rafkin, Solomon and Soltas 2024)
  - Heterogeneity in costs (not just value) of benefits (Shepard and Wagner 2025)

Information and Transacation Costs: SNAP

- Finkelstein and Notowidigdo (2019 QJE) "Take-up and Targeting: Experimental Evidence from SNAP"
- SNAP takeup particularly low among elderly (~40% vs. 80% overall)
- Non-profit (Benefits Data Trust) tries to increase takeup
  - State provides list of people not enrolled in SNAP but likely eligible (enrolled in Medicaid)
  - They reach out to inform of potential eligibility and offer application assistance
- RCT on ~30,000 elderly not enrolled in SNAP but likely eligible
  - Information only: informs of likely eligibility
  - Information plus assistance: also provides help with application
  - Control group: status quo
- Questions:
  - how does takeup respond to these interventions
  - who is the marginal person affected (targeting properties)
  - what are the normative implications?

Figure A1: Standard Outreach Materials: Information Plus Assistance

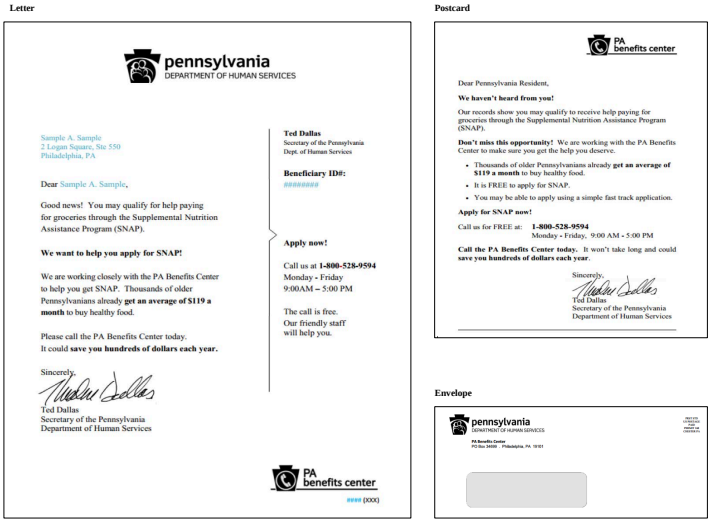
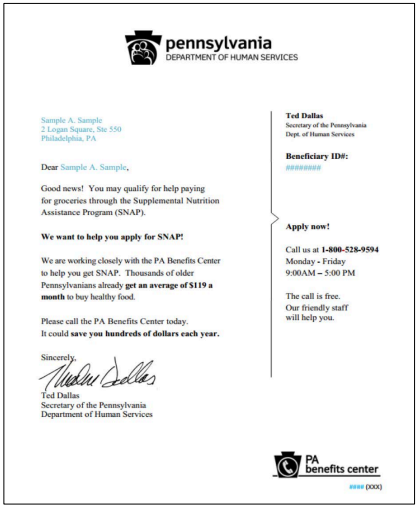


Figure A1: Standard Outreach Materials: Information Plus Assistance

Letter



pennsylvania
DEPARTMENT OF HUMAN SERVICES

Sample A. Sample
2 Logan Square, Ste 550
Philadelphia, PA

Dear Sample A. Sample,

Good news! You may qualify for help paying for groceries through the Supplemental Nutrition Assistance Program (SNAP).

We want to help you apply for SNAP!

We are working closely with the PA Benefits Center to help you get SNAP. Thousands of older Pennsylvanians already **get an average of $119 a month** to buy healthy food.

Please call the PA Benefits Center today.
It could **save you hundreds of dollars each year.**

Sincerely,

Ted Dallas
Secretary of the Pennsylvania
Department of Human Services

Ted Dallas
Secretary of the Pennsylvania
Dept. of Human Services

Beneficiary ID#:
########

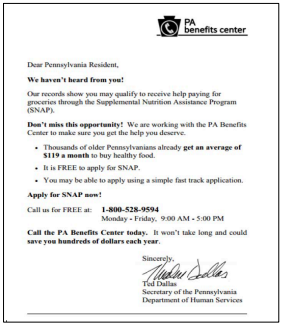
Apply now!

Call us at **1-800-528-9594**
Monday - Friday
9:00AM – 5:00 PM

The call is free.
Our friendly staff
will help you.

PA benefits center
(XXX)

Postcard



PA benefits center

Dear Pennsylvania Resident,

We haven't heard from you!

Our records show you may qualify to receive help paying for groceries through the Supplemental Nutrition Assistance Program (SNAP).

Don't miss this opportunity! We are working with the PA Benefits Center to make sure you get the help you deserve.

- Thousands of older Pennsylvanians already **get an average of $119 a month** to buy healthy food.
- It is FREE to apply for SNAP.
- You may be able to apply using a simple fast track application.

Apply for SNAP now!

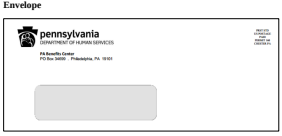
Call us for FREE at: **1-800-528-9594**
Monday - Friday, 9:00 AM - 5:00 PM

Call the PA Benefits Center today. It won't take long and could **save you hundreds of dollars each year**.

Sincerely,

Ted Dallas
Secretary of the Pennsylvania
Department of Human Services

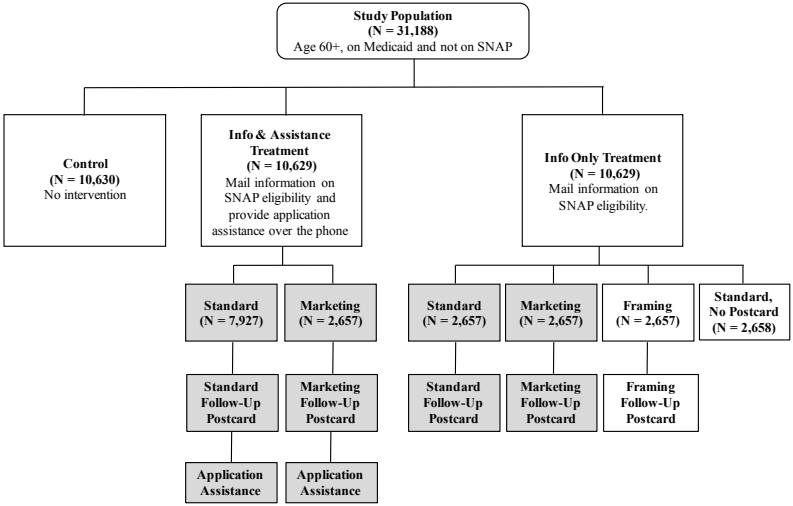
Envelope



pennsylvania
DEPARTMENT OF HUMAN SERVICES

PA Benefits Center
PO Box 34000 · Philadelphia, PA 19101

Figure A3: Experimental Design



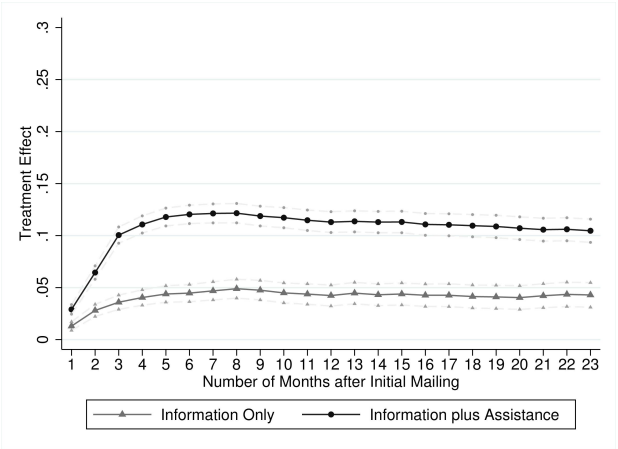
Takeup results

Table 2: Behavioral Responses to "Information Only" and "Information Plus Assistance"

	Control	Information Only	Information Plus Assistance	P Value of Difference (Column 2 vs 3)
	(1)	(2)	(3)	(4)
SNAP Enrollees	0.058	0.105	0.176	
		[0.000]	[0.000]	[0.000]
SNAP Applicants	0.077	0.147	0.238	
		[0.000]	[0.000]	[0.000]
SNAP Rejections among Applicants	0.233	0.266	0.255	
		[0.119]	[0.202]	[0.557]
Callers	0.000	0.267	0.301	
		[0.000]	[0.000]	[0.000]
Adjusted Callers	0.000	0.289	0.301	
		[0.000]	[0.000]	[0.156]
SNAP Applicants among Non-Callers	0.077	0.086	0.081	
		[0.063]	[0.324]	[0.363]
SNAP Applicants among Callers	0.000	0.313	0.602	
		[0.000]	[0.000]	[0.000]
SNAP Enrollees among Non-Callers	0.058	0.061	0.059	
		[0.442]	[0.713]	[0.688]
SNAP Enrollees among Callers	0.000	0.226	0.450	
		[0.000]	[0.000]	[0.000]
Observations (N)	10,630	5,314	10,629	

Time pattern of enrollment

Figure 1: Time pattern of enrollment responses



NOTE: Figure shows, by month, the (cumulative) estimated treatment effects on enrollment (relative to the control) for the Information Only arm and the Information Plus Assistance arm. 95 percent confidence intervals on these estimates are shown in the dashed light gray lines.

Takeup results

- "Information only" increases enrollment less but may be more cost-effective
  - 9-month enrollment: 6% (control), 11% (info only); 18% (info plus assistance)
  - Cost per additional enrollee: ~$20 (info only); $60 (info + assistance)
- Applications increase proportionally - no change in approval rate
- Reminder postcard
  - Info only without reminder postcard has about 20% lower applications and enrollment
  - Suggestive of inattention?

Targeting results

- Takeup: Info increases enrollment by about 5 ptg pts, Info + Assistance by about 12ptg pts
- Both interventions decrease targeting: Marginal applicants and enrollees are "less needy" than average enrollees
  - Lower benefits (progressive benefit formula)
  - Better health
- Note: do not observe "ground truth" (i.e. what social planner would like to target on):
  - marginal utility of consumption
  - compare to Alatas et al.

Normative analysis: now with "behavioral frictions"

- Will present model from Finkelstein and Notowidigdo (2019)
- Goals:
  - Framework for how to interpret the prior empirical results normatively
    - nests Nichols and Zeckhauser model as a special case
  - Provides guide to what empirical objects are needed for normative analysis

Overview of normative model

- Standard (i.e. Nichols and Zeckhauser) neocolassic framework on ordeal mechanisms.
  - Key assumptions:
    - Individual types (abilities) unobserved;
    - decisions are privately optimal
    - labor supply response is the only source of fiscal externality (greater for higher types)
  - Result: ordeal that imposes greater utility cost on higher types can improve social welfare over and above an optimal non-linear income tax
- This theoretical result may not generalize when we allow for:
  - Individuals may not make privately optimal application decisions
  - OR flexible relationship between individual type and fiscal externality from her enrollment on government budget
  - OR ordeals do not impose greater utility cost on higher types
- Key empirical questions for welfare implications of targeting:
  - Relative behavioral biases (if any) across types
  - Relative fiscal externalities across types

Model set up

- Individuals of type j=L or H. Each type has unobserved wage θ_j, with $\theta_H > \theta_L$
- Individuals make hours choice h_j and also choose whether to apply to safety net program
- Net-of-tax earnings: $y_j = \theta_j h_j - \tau(\theta_j h_j)$
- Program application pays benefits B if earnings are below some threshold r^*

Model set up (con't)

- Common utility function across types:
  - If individual does not apply: $u(x_j) - v(h_j)$
  - If individual applies: $u(x_j) - v(h_j) - (\Lambda\kappa_j + c)$
    - $(\Lambda\kappa_j + c)$ is private cost of applying
    - Type specific utility cost: κ_j (NZ assume $\kappa_H > \kappa_L$)
    - Individual-specific utility cost with type-specific distribution $f_j(c)$
- Allow for misperception of benefits (ϵ_j) so that perceived benefit from applying is $(1 + \epsilon_j)B$

Application decision and private welfare

- Individuals make application and labor supply decisions to maximize private utility, given their (possibly incorrect) perceptions
  - Apply if EU from applying (given optimal hours choice if apply) $>$ EU from not applying (again given optimal hours choice)
- For low-ability individuals, assume either hours choice would leave them below the earnings eligibility threshold r^*
- For high ability individuals, assume hours choice if they do not apply puts earnings ability eligibility threshold r^*
  - Therefore if they apply set hours $= r^*/\theta_H$ so they are at income threshold
- Note: both types choose weakly fewer hours of work if apply (due to potential income effects) but for H types there is an added reduction in hours from applying because of the need to reduce hours to meet income eligibility threshold
  - This will be important; makes for a higher fiscal externality from H applying than L

Application decision and private welfare

- Individuals apply if expected utility from applying (given optimal hours choice if apply) exceeds expected utility from not applying (again given optimal hours choice)
- V_j denotes private welfare of type j

We define c_j^* to be the threshold level of c such for $c < c_j^*$, type j chooses to apply.

Total private welfare of type j, V_j, can therefore be written:

$$
\begin{aligned}
V_j &= Pr(apply) * E[u()|apply] + Pr(\neg apply) * E[u()|\neg apply] \\
&= \int_0^{c_j^*} (u(y_j^A + B) - v(h_j^A) - (\bar{\Lambda}\kappa_j + c))dF_j(c) \\
&+ \int_{c_j^*}^{\infty} [u(y_j^{\neg A}) - v(h_j^{\neg A})]dF_j(c)
\end{aligned}
$$

Social Welfare

- Assume a utilitarian SWF

Total social welfare, W, can therefore be written: $G_j^A = \tau(h_j^A \theta_j)$ and $G_j^{\neg A} = \tau(h_j^{\neg A} \theta_j)$

$$W = \underbrace{V_L + V_H}_{\text{Private Welfare}} - \underbrace{[B(A_L + A_H)]}_{\text{Program Cost}} + \underbrace{[A_L G_L^A - (1 - A_L) G_L^{\neg A} + A_H G_H^A + (1 - A_H) G_H^{\neg A}]}_{\text{Fiscal Externality}}$$

where $A_j = F_j(c_j^*)$ is the expected number of applications from type j individuals.

- Note that (for expositional ease) we are using G to denote the net fiscal externality from type j applying (or not applying)

Social Welfare: Program Costs

Total social welfare, W, can therefore be written: $G_j^A = \tau(h_j^A \theta_j)$ and $G_j^{\neg A} = \tau(h_j^{\neg A} \theta_j)$

$$W = \underbrace{V_L + V_H}_{\text{Private Welfare}} - \underbrace{[B(A_L + A_H)]}_{\text{Program Cost}} + \underbrace{[A_L G_L^A - (1 - A_L) G_L^{\neg A} + A_H G_H^A + (1 - A_H) G_H^{\neg A}]}_{\text{Fiscal Externality}}$$

where $A_j = F_j(c_j^*)$ is the expected number of applications from type j individuals.

- Note that instead of subtracting mechanical program costs from W could instead "close" the government budget by having these costs "paid for" out of individual consumption
  - Our approach assumes costs of program born by someone with average marginal utility of consumption in society (i.e. W is a "money metric" SWF, normalized by average marginal utility of consumption in the population)

Social Welfare: Fiscal Externalities

- "Standard" negative fiscal externality: if individuals choose fewer hours of work as a result of applying for benefits, applying imposes a social cost - above and beyond the mechanical program cost (B) - via reduced income tax revenue
  - and note this fiscal externality is greater for H type (why?)
- if individuals privately optimize with accurate beliefs, too many people will apply relative to social optimum

Nests standard result

- Social optimum will involve a non-zero ordeal utility cost (i.e. $\Lambda > 0$) even in the presence of an optimal nonlinear income tax (Currie and Gahvari 2008)
  - Intuition: with unobserved ability θ_j and endogenous hours choices , optimal non-linear income tax has binding IC on high ability (prevent H from mimicking L) that prevents first best amount of redistribution (equal consumption across types)
  - Adding ordeals that are more costly to high ability types ($\kappa_H > \kappa_L$) can relax IC constraint and allow for more redistribution
- Key assumptions for standard result:
  - Ordeals impose higher utility costs on high ability type ($\kappa_H > \kappa_L$)
  - Individual choices are privately optimal ($\epsilon_j = 0$)
  - Only source of fiscal externality is through tax revenue (therefore high ability impose greater fiscal externality)
- These are all empirically testable
  - And if don't hold, can reverse standard result

Impact of Information on Social Welfare

Definition. Define $\mu_j \equiv u(y_j^A + B) - u(y_j^A + (1+\epsilon_j)B)$

Proposition 1. *The effect of the Information Only treatment on welfare is given by:*

$$\frac{dW}{dT}^{Information\ Only} = \underbrace{\mu_L \frac{dA_L}{dT} + \mu_H \frac{dA_H}{dT}}_{Change\ in\ Private\ Welfare} - \underbrace{\left[B\left(\frac{dA_L}{dT} + \frac{dA_H}{dT}\right)\right]}_{Change\ in\ Mechanical\ Program\ Costs} + \underbrace{\left[[G_L^A - G_L^{\neg A}]\frac{dA_L}{dT} + [G_H^A - G_H^{\neg A}]\frac{dA_H}{dT}\right]}_{Change\ in\ Fiscal\ Externality} \quad (1)$$

>0 >0 >0 >0 >0

Neoclassical setting

- Assume no misperceptions ($\epsilon_H = \epsilon_L = 0$). Therefore intervention has no effect on private welfare ($\mu_L = \mu_H = 0$)
  - Individual decisions are already privately optimal
  - marginal individuals is indifferent between applying and not, so change in behavior has no first-order impact on private welfare
  - with misperception (e.g. $\epsilon_j < 0$) intervention increases private welfare for marginal applicants of each type by μ_j
    - Size of private welfare gain increasing in amount of under-estimation
- Assumes change in fiscal externality for marginal applicant is larger (more negative) for H type
  - Remember the changes hours more in response to applying (bc needs to mimic L)

Some definitions

- Treatments (i.e. ordeal reductions) (T) :
  - "Information only": reduces misperceptions $(dT = d\epsilon)$
  - "Information plus assistance": reduces misperceptions and private application costs $(dT = d\epsilon, -d\Lambda)$
- Targeting $e = (E_L/(E_H + E_L)$
  - Share of enrollees who are low type (low ability / productivity)
  - Treatment T increases targeting if $de/dT > 0$
- $\mu_j = u(y_j^A + B) - u(y_j^A + (1 + \epsilon_j)B)$
  - difference for type j between the actual and perceived utility when applying
  - if individuals under-estimate benefits of applying $(\epsilon_j < 0)$, $\mu_j > 0$

Relationship between targeting and social welfare

Proposition 2. *Holding constant the change in applications due to an intervention, the change in social welfare in response to an improvement in targeting ($de/dT > 0$) from an Information Only (or Information Plus Assistance) treatment is given by the following expression:*

$$\frac{\partial}{\partial(de/dT)}\left(\frac{dW}{dT}\right)\Big|_{\frac{dA}{dT}} = \left[(\mu_L - \mu_H) + (G_L^A - G_L^{\neg A}) - (G_H^A - G_H^{\neg A})\right](E_H + E_L) \quad (3)$$

- In neoclassical case: the targeting property is
  - Unrelated impact on private welfare (which is zero by envelope theorem)
  - Depends solely on fiscal externality (which is larger for H by assumption)

- Once allow for misperceptions, can increase private welfare
  - $u'(y_j)$ higher for *L*-types
  - But, welfare gain also depends on ϵ_j which could have any relationship with type

Relationship between targeting and social welfare

Proposition 2. *Holding constant the change in applications due to an intervention, the change in social welfare in response to an improvement in targeting* $(de/dT > 0)$ *from an Information Only (or Information Plus Assistance) treatment is given by the following expression:*

$$\frac{\partial}{\partial(de/dT)}\left(\frac{dW}{dT}\right)\Big|_{\frac{dA}{dT}} = \left[(\mu_L - \mu_H) + (G_L^A - G_L^{\neg A}) - (G_H^A - G_H^{\neg A})\right](E_H + E_L) \quad (3)$$

- Even without misperceptions ($\epsilon_j = 0$) another "free parameter" in relationship between targeting and welfare is how size of fiscal externality varies with type
  - By assumption it's higher for H than L in standard model
  - What if there are other fiscal externalities such as impact of program enrollment on health and public health expenditures?
    - Empirically ambiguous which type creates bigger fiscal externalities

Relationship between targeting and social welfare

- Without misperceptions ($\epsilon_H = \epsilon_L = 0$)
  - $\mu_L - \mu_H = 0$
    - Change in targeting has no effect on private welfare
  - Relationship between change in social welfare and change in targeting therefore depends solely on how change in targeting changes fiscal externality from applying
- "standard" setting (i.e. Nichols and Zeckhauser): no misperceptions and only fiscal externality is through earnings margin
  - improved targeting (i.e. inducing L to apply instead of H) lowers the (negative) fiscal externality from applying
    - recall: reductions in earnings for H types induced to apply are larger than for L types induced to apply
  - therefore an increase in targeting increases social welfare
- Could break this if generalize G to include other fiscal externalities from applying
  - Could be positive or negative
  - relative magnitude across types also ambiguous

Relationship between targeting and social welfare

- With misperceptions ($\epsilon_j \neq 0$) , change in social welfare from an increase in targeting is also increasing in $(\mu_L - \mu_H)$
  - Intuition: thought experiment of increasing targeting "swaps" an H applicant for an L applicant so μ_L enters positively and μ_H enters negatively
- For $\epsilon_j < 0$, μ_j increasing in two type-specific factors: marginal utility of consumption, and magnitude of underestimation
- Sufficient condition for an increase in targeting to increase private welfare is that under-estimation is non-zero for at least one type and weakly higher (in absolute value) for L type (i.e. $\epsilon_L \leq \epsilon_H \leq 0$, with at least one inequality strict)
  - e.g. behavioral frictions larger for L type (Mullainathan and Shafir)
  - e.g. both underestimate by same (proportional) amount: $\epsilon_H = \epsilon_L < 0$)

Empirical objects for welfare analysis of targeting

- Misperceptions by type
- Fiscal externality by type
- But "type" (θ) is inherently unobserved. So what can you do empirically?
  - Need joint distribution of misperceptions and fiscal externalities
  - And perhaps marginal utility of consumption (if there are misperceptions)

Questions about targeting

- Empirical: who is screened out?
  - i.e. what is the impact of a given intervention on targeting (de/dT)
  - neoclassical theories assume ordeals improve targeting, while behavioral theories assume they worsen targeting
  - e.g. NZ assume ($\kappa_H > \kappa_L$) while "scarcity" hypothesis is opposie ($\kappa_L > \kappa_H$)
- Conceptual: how does the targeting impact of the intervention relate to its social welfare impact?
  - See above theory: not obvious that it does!

"Calibrating" model

- Results consistent with misperceptions
  - Impact of reminder postcard
  - Given empirical rejection rate of applications and resulting expected benefits from applying, and estimates of time cost of applying, absent mispeception of acceptance rate need implausibly high non-time cost of applying to rationalize (e.g. $3,000)
  - Alternatively, if assume zero non-time cost, estimate substantial misperceptions for marginal individual (higher for low income / high benefit individuals by construction)

Using model to interpret results

- Given our estimates of misperceptions, we can calculate the MVPF of the interventions
- Estimates suggest MVPF would be worse if targeting were worse
  - but this is because the higher need individuals have higher misperceptions (to rationalize non take up of higher benefits)
- Key point is that whether improved targeting improves social welfare depends not just on need (marginal utility of consumption) but also on misperception.
  - Implicit assumption in prior work that those in greater need had greater failures of rationality
  - Needs empirical examination

Key object for normative analysis

- What we really want is the joint distribution of fiscal externalities and behavioral frictions (hold that thought)
- Now that we know this, we might have designed a different RCT!

Distribution of behavioral frictions

- Amazingly little is known (but much is explicilty or implicitly assumed) about how behavioral frictions / propensities to 'make mistakes' vary across the SES distirbution
- Enter: Handel, Kolstad, Minten, Spinnewijn (AER:I, forthcoming): "The Socio-Economic Distribution of Choice Quality: Evidence from Health Insurance in the Netherlands"
- More work here would be fantastic!

Socio-economic distribution of choice quality

- Handel, Kolstad, Minten, Spinnewijn (AER:I, forthcoming): "The Socio-Economic Distribution of Choice Quality: Evidence from Health Insurance in the Netherlands"
- Setting: Choice of higher or lower deductible (linked to rich demographic and claims data) in the Netherlands
  - Conclude that about half of population should choose high deductible, but only about 10 percent do
  - Calculation based on premium reduction compared to expected increase in out of pocket costs
  - Robust to allowing for risk aversion, moral hazard, liquidity constraints etc
- Key finding: those with higher income, higher education, and training in quantitative fields make meaningfully better choices

Lecture Overview

- Take-up costs
  - Theory: neoclassical ordeals
  - Evidence:
    - Impact of ordeals on enrollment
    - Who is the marginal person deterred (groping toward normative)
- Information frictions: Evidence
- Welfare analysis of transaction costs and information frictions (Fink & Noto '19)
- **Stigma: Limited theory and evidence**
- New perspectives:
  - Average vs. marginal enrollees (Rafkin, Solomon and Soltas 2024)
  - Heterogeneity in costs (not just value) of benefits (Shepard and Wagner 2025)

Role of Stigma

- Many "null" results
  - eg. Bhargava and Manoli; Finkelstein and Notowidigdo: difficult to interpret.
    - Did interventions not affect stigma or did stigma not matter?
  - Anders and Rafkin (2024): "The Welfare Effects of Eligibility Expansions: Theory and Evidence from SNAP"
    - Try to see in on-line experiment if increasing beliefs about share eligible can reduce stigma - results mixed (and not yet making link to enrollment)
- Lasky-Fink, Linos (2024: defining and trying to measure different types of stigma across programs (and what might move it):
  - Social stigma: negative beliefs, attitudes and stereotypes about beneficiaries or prospective beneficiaries of a program
  - Internalized stigma: shame, poor self-efficacy, self-worth associated with being a beneficiary
  - Anticipated stigma: people will judge me (or I will be treated poorly during the application process)

Stigma as a 'cultural norm' phenomenon?

- May be hard to move through interventions
- What about looking at
  - cross country differences in perceptions from surveys
  - people who move across country? see e.g. Luttmer and Singhal AEJ:Policy (2011) "Culture, Context, and Tastes for Redistribution" (European Social Survey)

Lecture Overview

- Take-up costs
  - Theory: neoclassical ordeals
  - Evidence:
    - Impact of ordeals on enrollment
    - Who is the marginal person deterred (groping toward normative)
- Information frictions: Evidence
- Welfare analysis of transaction costs and information frictions (Fink & Noto '19)
- Stigma: Limited theory and evidence
- New perspectives:
  - **Average vs. marginal enrollees (Rafkin, Solomon and Soltas 2024)**
  - Heterogeneity in costs (not just value) of benefits (Shepard and Wagner 2025)

A different take on targeting

- Literature studies targeting impact of *marginal* change in ordeals or information
  - Grapples with how to measure 'targeting' (what X's; how to interpret)
  - Needs identifying variation in ordeals
- Rafkin, Solomon and Soltas (2024) "Self-Targeting in U.S. Transfer Programs"
  - Motivating question: Targeting properties of voluntary vs. automatic enrollment
  - Key advantages:
    - Don't need causal estimates!
    - Policy relevant
  - Focus on key challenge in existing work: measuring the 'right' targeting variable (consumption, permanent income)

Voluntary Self-targeting

- PSID (1997-2019)
- Measure current income, consumption, and (self-reported) transfer receipt
  - Can use panel to measure "lifetime" income
  - Measurement of take-up is a key challenge
- Key question: conditional on income (or income and eligibility), how does consumption (or lifetime income) of enrolled compare to that of non-enrolled

Analytical Framework

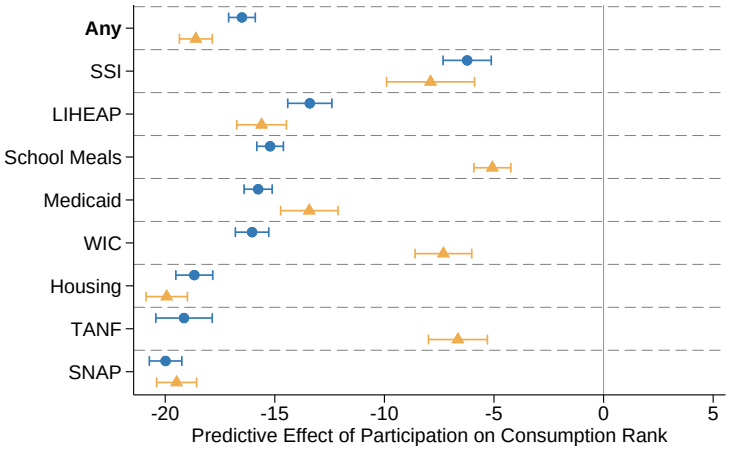
$$\overline{R}_{it} = \beta D_{it} + f(R_{it}) + u_{it}, \tag{6}$$

where $\overline{R}_{it}$ is the consumption rank or lifetime-income rank for household i in year t, R_{it} is i's current-income rank, $f(R_{it})$ is a flexible function of this rank, and D_{it} indicates i's receipt status for a given transfer program. The coefficient β summarizes the extent of advantageous selection into a transfer. We parameterize $f(R_{it})$ using cubic splines with knots at the 10th, 25th, and 50th percentiles of the current-income distribution.

- Note: any causal impact of program on (increasing) consumption or permanent income would bias against advantageous selection

Finding: Substantial self-targeting

(a) Selection on Consumption



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Ordeals in selection markets

- Ordeals in non-selection markets (what we have done thus far)
  - Ordeals as nonfinancial "price" of enrolling
  - Price in standard markets screens out people with low value (demand)
  - Whether ordeal screen out low or high value individuals is an empirical question

- Shepard and Wagner (2025, AER): Do Ordeals Work for Selection Markets? Evidence from Health Insurance Auto-Enrollment
  - Selection markets: heterogeneity across individuals not only in value (demand) but also costs
    - Insurance markets, credit markets, education ...
  - Now want to screen on net social value: social value minus costs

Ordeals in selection markets

- Theory: Adverse selection weakens the classic self-targeting case for ordeals
  - Classic self-targeting: ordeals screen out low demand individuals
  - Adverse selection: low demand indivdiuals tend to be low cost (will discuss at length in Part II of course)
  - Thus adverse selection can undermine ordeals' standard rationale of excluding low-value individuals since they are also low-cost so may not be inefficient to enroll

- Empirics: Impact of minor ordeal (extra step in enrollment process for health insurance)
  - Major impact on enrollment: 33 percent decline
  - Targeting: disproprotionately exclude young, healthy, and economically disadvantages

- Nice cross-pollination of ideas from selection literature into takeup literature
  - Will return to once we've covered selection in more detail
  - Also has **really** nice algebraic and graphical description of self-targeting with and without selection

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- **Concluding musings**

Areas for future work

- Attractive features of this area
  - Rich, interesting and inconclusive theory
  - Relative paucity of empirical evidence
  - Positive and normative questions
- Fertile ground for research
  - Impact of reducing barriers to takeup on takeup, screening, and welfare
    - Policy question: should we have auto enrollment?
  - Stigma - could be substantively important; empirically challenging
    - Perhaps a 'general equillibrium' / 'cultural' phenomenon (hold that thought)
  - Estimating optimal *level* of hassles
  - Recertifications (hold that thought)

Fruitful area for work: Recertification

- Some advantages:
  - Solves a key empirical challenge with takeup studies: defining the denominator
  - Relatedly: rich data on individual characteristics from enrollment
  - Rules out "don't want to receive government benefits" type explanations
- Small amount of work:
  - Pei (AEJ 2017) on optimal lenth of recertification
  - Homonoff and Somerville (AEJ 2021) on failures to recertify in SNAP (most cases quickly re-enroll)
- What about redoing Rafkin, Soltos and Solomon (2024) on automatic re-enrollment?
- Separately, failure to recertify can be a useful instrument for estimating causal effects
  - Hastings and Shapiro (AER 2018): MP to consume food out of food stamps vs cash

Methodological Comment

- Feasibility of RCTs in this space
  - Letters are cheap (e.g. EITC)
  - Partners interested in improving or demonstrating their efficacy (BDT)
- Yet implementing and expositing compelling quasi-experimental design in this space very valuable
  - often have larger samples (important for power to examine heterogeneiety of effects)
- Key advantage of RCT: can design / choose your variation

Application: Work requirements

- OBBBA (2025) introduces work requirements for Medicaid
- Impact on enrollment and employment?
  - Gray et al (2023 AEJ Policy) find work requirements for SNAP has large effect on program exit, no impact on employment
- Expecting large decline in Medicaid enrollment *among working individuals*
  - New certification / paperwork requirements
  - How big? Who?