Paternalistic Social Assistance: Evidence and Implications from Cash vs. In-Kind Transfers

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Motivation

- In the US and many other countries, a large share of the social safety net consists of in-kind transfers (e.g., education, housing, health care, food), rather than cash
  - In 2019, over half of transfers in the US were in-kind transfers
  - After welfare reform, cash transfers in the US have all but disappeared for non-elderly adults

- Widespread use of in-kind transfers sits awkwardly with classical public economic theory, since cash transfers allow recipients to optimize their use of the transfers

  (Atkinson and Stiglitz 1976; Kaplow 2006)

- In response, economists have developed several theoretical rationales for in-kind transfers:
  - Self-targeting (Nichols and Zeckhauser 1982, Currie and Gavari 2008, Lieber and Lockwood 2019)
  - Pecuniary externalities (Coate et al. 1994, Cunha et al. 2019)
  - Insurance against commodity price risk (Gadenne et al. 2024)
  - Samaritan's dilemma (Coate 1995)

Motivation

In the minds of many voters and politicians, however, **paternalism** is the primary rationale for in-kind transfers:

- Americans overwhelmingly report that they prefer to redistribute in-kind instead of using cash, and their primary explanation is that cash will be spent "inappropriately" (Liscow and Pershing 2022)
- In 2012, Congress required states to adopt policies to prevent cash assistance from being spent in liquor stores, casinos, and adult-entertainment establishments
- In 2021, Joe Manchin expressed concern that child tax credit would be spent on illegal drugs

Currie and Gahvari (2007): *"Economists appear to feel that paternalism is either too simple or too unattractive a rationale for large-scale government programs. Hence, they have expended considerable creativity positing other explanations... But it is hard to escape the conclusion that paternalism remains a fundamental underlying rationale for in-kind transfers."*

This paper: In-kind Transfers and Paternalism

- **Evidence:** Empirical evidence that the receipt of ***inframarginal*** in-kind transfers (SNAP transfers) reduces the consumption of temptation goods (drugs and alcohol) relative to cash transfers

- **Theory:** Explore normative implications of the findings for the optimal mix of in-kind transfers and cash transfers in the presence of self-control problems and mental accounting behavior

Empirical setting: Consumption responses to SSI vs. SNAP

- Large-scale, federally funded means-tested transfer programs for low-income adults
  - SSI: cash transfers to the elderly and the disabled
  - SNAP: food vouchers (second-largest means-tested U.S. program)
    - Inframarginality: vast majority of SNAP recipients spend more on food than they receive in SNAP benefits (Trippe and Ewell 2007; Hoynes et al. 2015; Hastings and Shapiro 2018)
- Develop new empirical tests of fungibility:
  - Compare effects of SSI to effects of SNAP on (i) ER visits for drug and alcohol use and (ii) new prescription drug fills
  - Exploit within-month variation in date of benefit receipt (e.g. Dobkin and Puller 2007, Evans and Moore (2011, 2012), Cotti et al. (2018,2020))
- Customized data linkage from South Carolina (1998-2019)

Preview of results

- **Empirical results:** Reject fungibility of SNAP and cash using ER visits. Relative to SNAP, receipt of SSI increases:
  - ER visits for drug and alcohol use (proxy for temptation good)
  - Fills for *new* prescriptions (proxy for non-temptation, non-labeled good)
- Findings motivate model of a paternalistic social planner:
  - Consumers engage in mental accounting and have self-control problems
  - Planner chooses optimal in-kind share of (exogenous) transfer budget
- **Normative implications** for role of in-kind transfers:
  - Optimal SNAP share is strictly positive if individuals have self-control problems and is (weakly) increasing in self-control problems and (weakly) decreasing in the strength of mental accounting behavior
  - Rough calibration: optimal SNAP benefits are lower than current level – i.e., SNAP may be "overly paternalistic"
  - With heterogeneous agents, SNAP can dominate the optimal uniform Pigouvian tax on the temptation good

Related literature

- Economic rationales for in-kind transfers (e.g., Nichols and Zeckhauser 1982, Coate et al. 1994, Coate 1995, Currie and Gavari 2008, Lieber and Lockwood 2019, Cunha et al. 2019, Gadenne et al. 2024)
  - Paternalism relatively under-studied but potentially important rationale (Liscow and Pershing 2022, Ambuehl et al. 2025)

Related literature

- Economic rationales for in-kind transfers
  - Paternalism relatively under-studied but potentially important rationale
- Normative model draws from behavioral economics literature
  - Time inconsistent preferences (e.g., Thaler and Shefrin 1981, Laibson 1997, O'Donoghue and Rabin 1999, Banerjee and Mullainathan 2010)
  - Mental accounting (e.g., Thaler 1985, Thaler 1999)
  - Optimal policy with time-inconsistent agents (e.g., Gruber and Koszegi 2001, O'Donoughue and Rabin 2006, Allcott et al 2019, Farhi and Gabaix 2020, Lockwood 2020)

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  - Optimal policy with time-inconsistent agents
- Healthcare-based fungibility tests complement existing consumption-based tests
  - Mixed results within and across contexts of fungibility of in-kind (or "labeled cash") transfers vs. cash (e.g., Beatty et al., 201, Benhassine et al. 2015, Cunha 2014, Banerjee et al. 2023)
  - Existing evidence that *MPCf* out of SNAP is higher than cash (Hastings and Shapiro 2018)

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  - Mixed results within and across contexts of fungibility of in-kind (or "labeled cash") transfers vs. cash
  - Existing evidence that *MPCf* out of SNAP is higher than cash
- Large empirical literature (with mixed results) on the impacts of cash on temptation goods, impacts of cash on health, and impacts of SNAP on health (e.g., Dobkin and Puller 2007, Evans and Moore 2010, Evans and Moore 2012, Gross and Tobachman 2014, Gross et al. 2022, Agarawal et al. 2024)

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  - Existing evidence that *MPCf* out of SNAP is higher than cash
- Large empirical literature (with mixed results) on the impacts of cash on temptation goods, impacts of cash on health, and impacts of SNAP on health
  - We provide a "head-to-head" comparison of SNAP vs cash ***among the same individuals***

Roadmap of talk

(1) Introduction

(2) **Empirical framework**

(3) Data

(4) Results

(5) Normative model

(6) Conclusion

SSI and SNAP benefits schedules

- Empirical framework exploits variation in timing of benefit payments within and across people
  - SSI benefits paid on first of month (or first preceding weekday if first is a weekend or federal holiday)
  - SNAP benefits in South Carolina paid on 15 different days between the 1st and the 19th of the month, depending on last digit of case number and when enrolled
    SNAP Payout Schedule

- Importantly, the date of benefit *payment* corresponds to date of benefit *receipt* because of electronic benefit payments

Empirical Framework

We estimate the effects of SSI payments with the following linear regression:

$$y_{dg} = \sum_{\substack{r=-\mathbf{13} \\ r \neq -r}}^{13} (\alpha_r 1[r(d) = r] + \beta_r SSI_g \cdot 1[r(d) = r]) + \gamma SSI_g + \Omega_d \gamma + \epsilon_{dg}$$

- d denotes calendar day, g denotes group (on SSI or not), and l denotes day relative to SSI payout ($l = 0$)
- $\mathbb{1}[r(d) = r]$ are a series of indicator variables for day d corresponding to relative day r
- SSI_g is an indicator variable for on SSI (vs not)
- Allow for fixed differences across groups (γ), and (following Evans and Moore 2012) indicator variables for calendar month, year, day of week, and 21 'special days' like Christmas and the Super Bowl (Ω_d)

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- Allow for fixed differences across groups (γ), and (following Evans and Moore 2012) indicator variables for calendar month, year, day of week, and 21 'special days' like Christmas and the Super Bowl (Ω_d)
- Report two sets of estimates:
  - ($\alpha_l + \beta_l$) coefficients show within month pattern for SSI recipients
  - β_l coefficients show within month pattern for SSI recipients *relative to* non-recipients

Empirical Framework

We estimate the effects of SSI payments with the following linear regression:

$$y_{dg} = \sum_{\substack{r=-\mathbf{13} \\ r \neq -r}}^{\mathbf{13}} (\alpha_r 1[r(d) = r] + \beta_r SSI_g \cdot 1[r(d) = r]) + \gamma SSI_g + \Omega_d \gamma + \epsilon_{dg}$$

And the effect of SNAP payments:

$$y_{dcs} = \sum_{\substack{r'=-\mathbf{13} \\ r' \neq -\mathbf{1}}}^{\mathbf{13}} \beta_{r'} 1[r'(dcs) = r'] + \delta_{c,s}\psi_c + \Omega_{d,s} + \kappa_{k,s} + \epsilon_{dcs}$$

- d denotes calendar day, r' denotes day relative to SNAP payout day ($r' = 0$), c denotes last digit of SNAP case number and s whether case assigned before/after September 2012.
- $\mathbb{1}[r'(dcs) = r']$ are a series of indicator variables for relative day r' and key coefficients are the $\beta_{r'}$
- Same controls for calendar month, year, day of week and special days (Ω_d), plus add indicators for case number (ψ_c), and indicators for day-of-month (κ_k)
- Allow coefficients on all covariates to vary with assignment regime s

Roadmap of talk

(1) Introduction

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Data

- Customized data linkage covering all individuals in South Carolina born 1970 or earlier who were on Medicaid at some point between 1998 and 2019

- Linked to individual-level, date-stamped information (1998-2019) covering:
  - SNAP/SSI benefit receipt
  - ER visits for all payers (overall and by diagnosis)
  - Prescription drug fills covered by Medicaid (overall and by type)
  - Basic demographics

Identifying benefit receipt

- Define at the person-month level
- **On SNAP:** observed directly
  - Restrict to person-months where spell is at least 12 months
- **On SSI:** defined based on whether person-month received Medicaid through an SSI-related eligibility category (Dobkin and Puller 2007)
  - Likely false negatives
  - Again restrict to person-months where spell is at least 12 months
- **Likely not on SSI**: limited to individuals whose households are never seen receiving SSI through Medicaid (1998-2019)
  - (Very) likely false positives
  - Will be using to contrast with cycle in outcomes for SSI recipients (likely "over-controlling")

Main outcomes

Use health care data to proxy for consumption of various types of goods:

- **Consumption of temptation goods:** ER visits for drug and alcohol use
- **Other "good" consumption (non-temptation, non-food):** Fills of prescriptions for a *new* drug ("first fills")
  - Note that typical Medicaid co-pays are $2 to $3, similar to Gross et al. (2022)

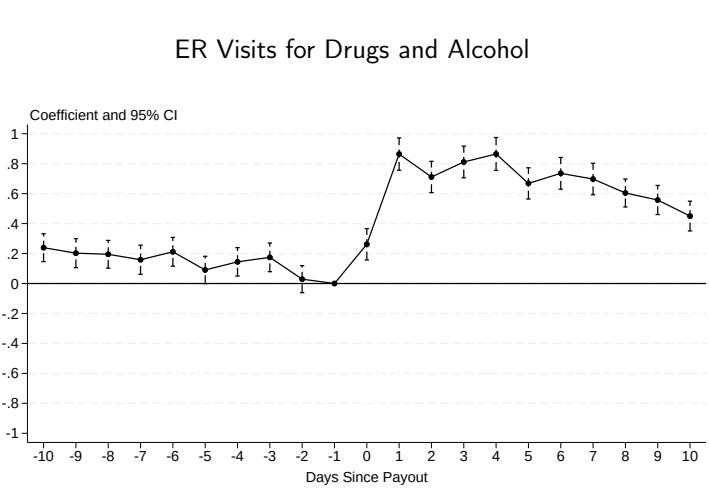
Analytic samples

- **SNAP and SSI samples:**
  - SNAP sample: person-months on SNAP
  - SSI sample: person-months (a) on SSI or (b) likely not on SSI
- **SNAP and SSI "overlap" sample**: Intersect the two samples above to person-months in both the SNAP and SSI samples
  - Allows us to test fungibility *among same individuals*
  - About half of the main sample
- **Prescription drug sample**: limit both of above samples to the person-months on Medicaid and not Medicare (so can observe drug fills)
  - We lose about 60-75 percent of sample

Summary statistics

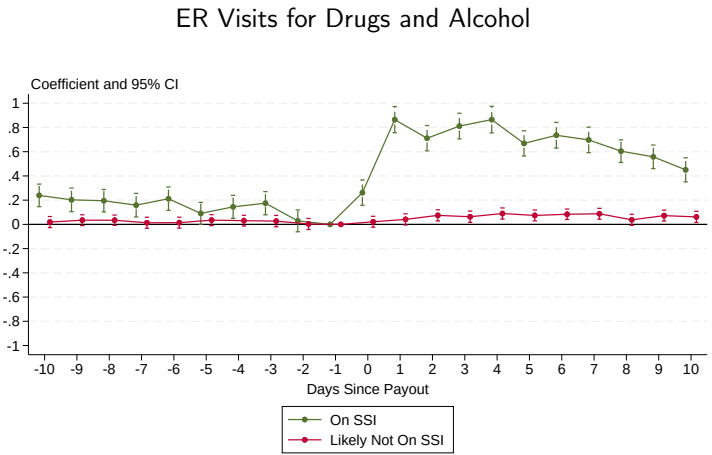
	On SNAP	On SSI	Likely Not On SSI
Panel A: Demographics			
Mean Age	56.6	60.4	56.7
Share Female	0.64	0.61	0.66
Share White	0.39	0.33	0.50
Share Black	0.44	0.43	0.33
Share Other	0.17	0.24	0.16
Share Missing	0.01	0.00	0.02
Panel B: ER Visits Per Day (Per 10,000)			
Drug/alcohol-related (DA)	1.90	2.36	0.53
Any cause	34.18	39.25	15.65
N person-months	29,016,217	19,236,048	109,240,417
N unique individuals	380,533	197,917	507,464

Temptation goods: SSI



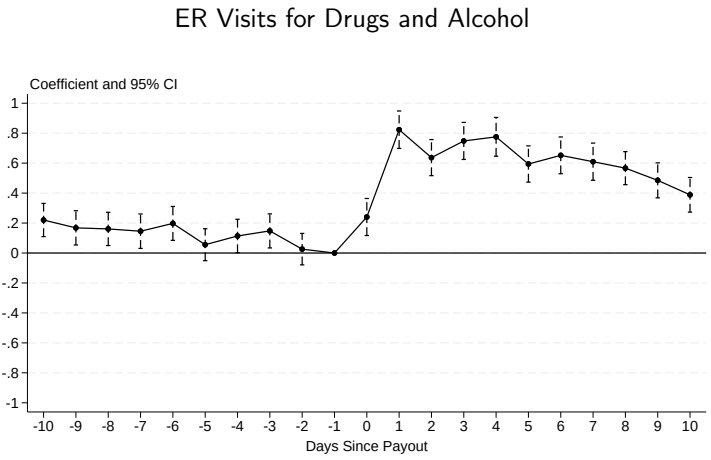
- Sharp increase in number of ER visits for drug or alcohol use following receipt of SSI
- Increase of .26 visits (11% relative to mean of 2.36 visits) on day 0, rising to .86 (36%) on day 1
- Consistent with prior findings (e.g., Dobkin and Puller (2007), Evan and Moore 2012)
- Concern: Other "first of the month" effects (e.g., paychecks or other benefits)

Temptation goods: SSI vs likely not SSI



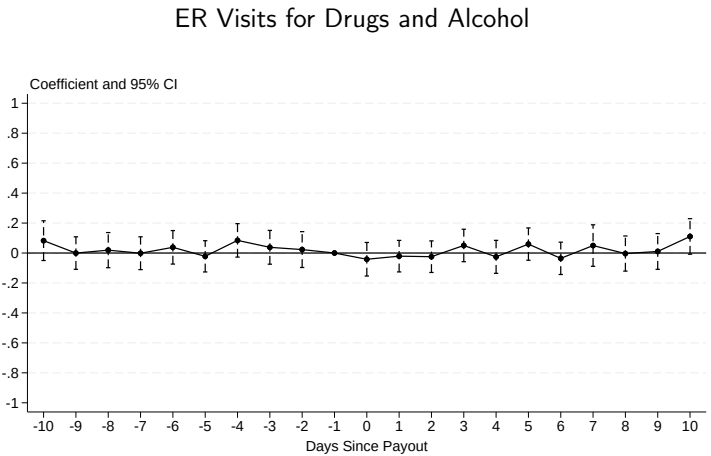
- Increase is substantially smaller for those "likely not on SSI"
- Concern: We are likely "over-controlling" as some in the "control group" are on SSI

Temptation goods: SSI vs likely not SSI (DD)



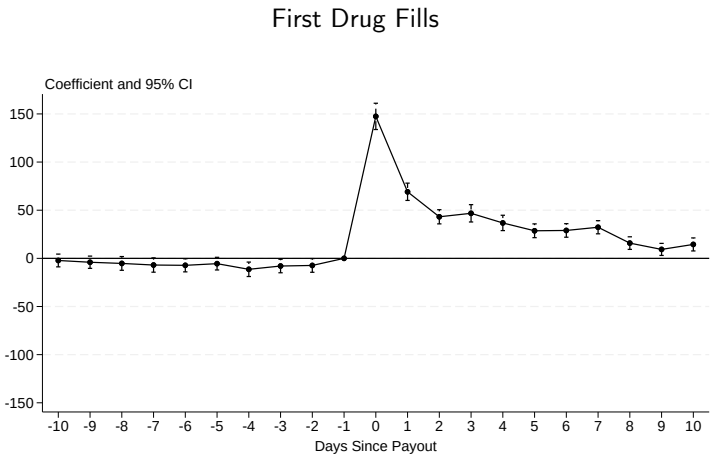
- See a large increase for those on SSI relative to those likely not on SSI

Temptation goods: SNAP

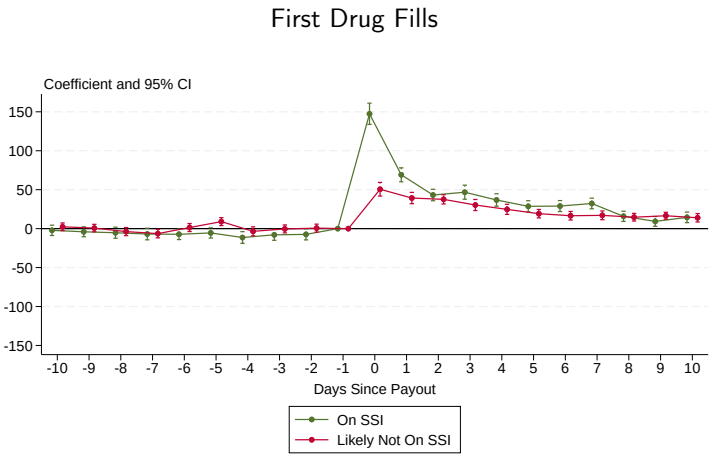


- By contrast, we see no evidence of increased drug or alcohol related ER visits following receipt of SNAP

First drug fills: SSI

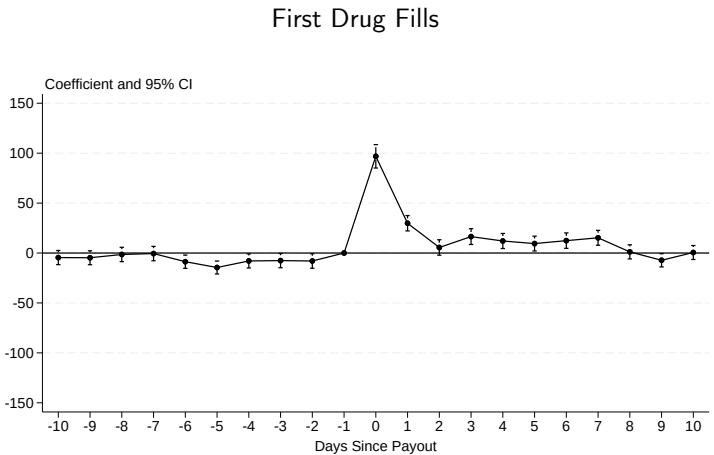


First drug fills: SSI vs likely not SSI

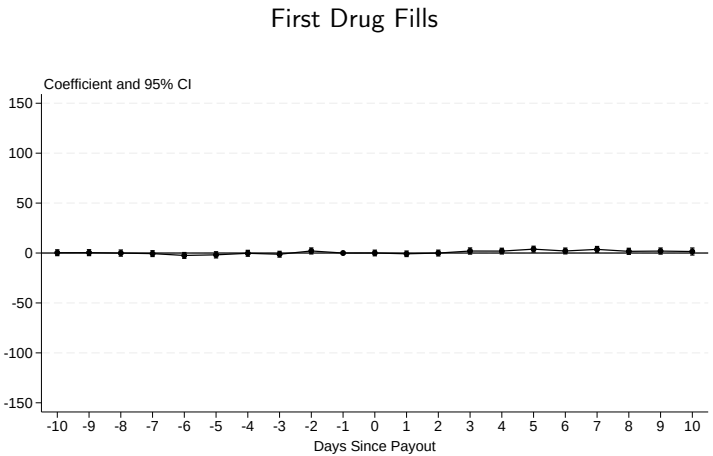


- Increase of about 146 first drug fills (104%) following receipt of SSI
- Broadly consistent with Gross et al. (2022), which reports an increase among low-income elderly adults facing small co-pays following the receipt of Social Security
- Focus on *new* drug fills to try to minimize the role of drug fills coming from other shopping trips

First drug fills: SSI vs likely not SSI (DD)

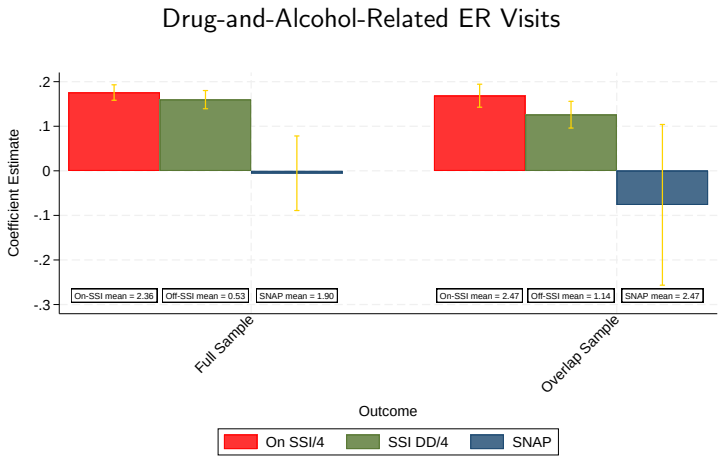


First Drug Fills: SNAP



- By contrast, we find no evidence that such fills increase following SNAP benefit receipt
- Though consistent with small "shopping"-induced effects, we do find a slight increase in drug *refills* following SNAP receipt Refills results

Fungibility Tests: Temptation Goods

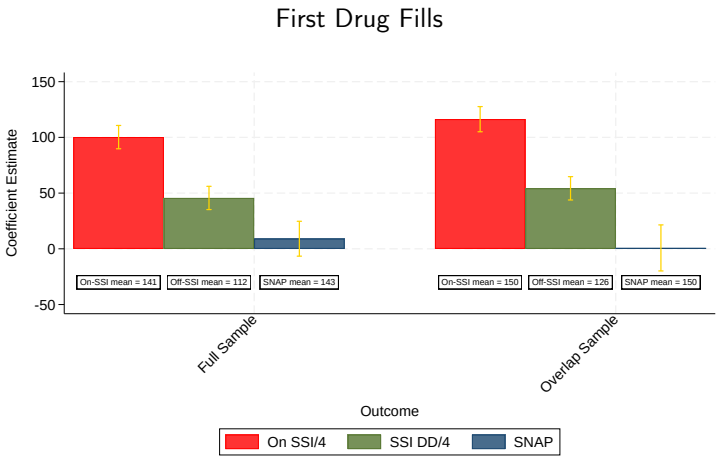


- Estimating average impact over week post receipt
- Scaling SSI by 1/4 to reflect higher levels of benefits

Fungibility Tests: Temptation Goods

		(1) SNAP Estimate	(2) SSI Estimate $\frac{1}{4}$*On SSI	(3) SSI Estimate $\frac{1}{4}$*SSI DD
Full Samples	Estimate	-0.006	0.176	0.160
		(0.043)	(0.009)	(0.010)
	Difference, SSI - SNAP	-	0.181	0.165
		-	(0.044)	(0.044)
	P-value of difference	-	< 0.001	< 0.001
	Scaling factor		9.09	8.33
Overlap Samples	Estimate	-0.076	0.169	0.126
		(0.092)	(0.013)	(0.015)
	Difference, SSI - SNAP	-	0.245	0.202
		-	(0.093)	(0.093)
	P-value of difference	-	0.008	0.030
	Scaling factor		6.67	5.00

Fungibility Tests: First Drug Fills



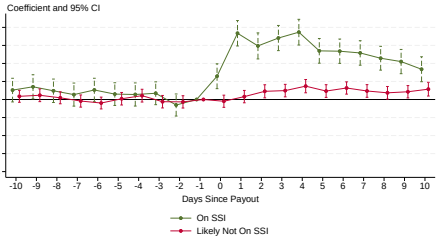
- Estimating sum of impacts over week post receipt
- Scaling SSI by 1/4 to reflect higher levels of benefits

Fungibility Tests: First Drug Fills

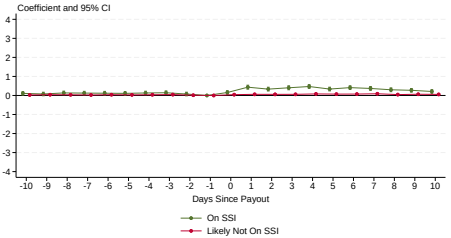
		(1) SNAP Estimate	(2) SSI Estimate $\frac{1}{4}$*On SSI	(3) SSI Estimate $\frac{1}{4}$*SSI DD
Full Samples	Estimate	9.066	100.233	45.649
		(7.985)	(5.335)	(5.326)
	Difference, SSI - SNAP	-	91.167	36.583
		-	(9.628)	(9.641)
	P-value of difference	-	< 0.001	< 0.001
	Scaling factor		16.67	7.14
Overlap Samples	Estimate	0.807	116.330	54.287
		(10.537)	(5.760)	(5.339)
	Difference, SSI - SNAP	-	115.523	53.480
		-	(12.081)	(11.891)
	P-value of difference	-	< 0.001	< 0.001
	Scaling factor		25.00	10.00

Heterogeneity in impact of SSI on Temptation Goods

Prior Behavioral Health Issues



No Prior Behavioral Health Issues



- Much larger impact for 10% with prior ER visits for behavioral health issues

Roadmap of talk

(1) Introduction

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Model overview

- We develop a model with two key features:
  1. Consumers have self-control problems which lead them to over-consume temptation goods ("bads") like drugs and alcohol
  2. Consumers may engage in "mental accounting" which breaks the fungibility of SNAP and cash

- Comparative statics of the model match the empirical evidence on non-fungibility:
  1. $MPCb^{Cash} > MPCb^{SNAP}$ (consumption of "bads" responds more to cash)
  2. $MPCn^{Cash} > MPCn^{SNAP}$ (consumption of non-food goods responds more to cash)
  3. $MPCf^{SNAP} > MPCf^{Cash}$ (consumers treat SNAP as "food money")

- Implications for paternalistic social planner splitting (exogenous) transfer between cash and SNAP when consumer has self-control problems:
  1. Optimal transfer involves strictly positive amounts of SNAP
  2. Optimal SNAP share weakly increasing w/ self-control problems and weakly decreasing w/ mental accounting
  3. With heterogeneous agents, SNAP can dominate Pigouvian tax on temptation

Setup

- Two-period model
  - in $t = 1$, social planner allocates a fixed budget ($\bar{y}$) between cash (y_1), which can be spent on anything, and SNAP (b_1), which can only be spent on food
  - consumer allocates budget over: food, non-food, and temptation good

- Food and non-food consumed each period:
  - total food consumption: $f \equiv f_1 + f_2$
  - total non-food consumption: $n \equiv n_1 + n_2$

- Temptation good ("bad"):
  - consumed in first period (c_1^b)
  - negative utility consequences in second period ($t = 2$)

Setup

The individual's budget constraints (normalizing $p_n = 1$), are the following:

$$p_f * f + n + p_b * c_1^b \leq y_1 + b_1$$
$$n + p_b * c_1^b \leq y_1$$

The second constraint follows from the fact that SNAP benefits (b_1) can only be spent on food (f), creating the familiar "kinked" budget set

Consumer utility

- Per-period utility functions are given by

$$\begin{aligned} U_1 &= \alpha_g \alpha_f \log(f_1) + \alpha_g(1-\alpha_f)\log(n_1) + (1-\alpha_g)\log(c_1^b) \\ U_2 &= \alpha_g \alpha_f \log(f_2) + \alpha_g(1-\alpha_f)\log(n_2) - \gamma(1-\alpha_g)\log(c_1^b) \end{aligned}$$

  - $0 < \gamma < 1$ scales the period 2 negative health consequences of consuming temptation good in period 1

- Total utility is given by:

$$U = U_1 + \beta U_2 - \kappa[(\phi_0 y_1 + b_1) - p_f(f_1 + f_2)]^2$$

  - $0 < \beta \leq 1$ is individual's subjective discount factor between the two periods
  - $\kappa \geq 0$ governs the strength of the individual's mental accounting of SNAP benefits

- Model extends Hastings and Shapiro (2018) model of mental accounting of SNAP benefits to allow for temptation good with negative future health consequences

Mental accounting

- Per-period utility given by

$$\begin{aligned} U_1 &= \alpha_g \alpha_f \log(f_1) + \alpha_g(1-\alpha_f)\log(n_1) + (1-\alpha_g)\log(c_1^b) \\ U_2 &= \alpha_g \alpha_f \log(f_2) + \alpha_g(1-\alpha_f)\log(n_2) - \gamma(1-\alpha_g)\log(c_1^b) \end{aligned}$$

- Total utility is given by:

$$U = U_1 + \beta U_2 - \kappa[(\phi_0 y_1 + b_1) - p_f(f_1 + f_2))]^2$$

  - $\kappa \geq 0$ governs the strength of the individual's mental accounting of SNAP benefits.
  - ϕ_0 captures the share of the individual's budget that she would choose to spend on food in the absence of mental accounting (i.e., $\kappa = 0$); it is a function of preference parameters (α_g, α_f, β, γ).
  - Mental accounting: quadratic utility cost from gap between actual food consumption ($p_f(f_1 + f_2)$) and "target" food consumption ($\phi_0 y_1 + b_1$)

Definitions

- **Inframarginal SNAP benefits** are below the amount the consumer would have chosen to spend on food in the absence of mental accounting, or equivalently if the planner had allocated the entire transfer in cash:
  - $b_1 < \frac{\phi_0}{1-\phi_0} y_1$
  - recall ϕ_0 captures the share of the individual's budget that she would choose to spend on food in the absence of mental accounting (i.e., $\kappa = 0$)

- **Marginal Propensities to Consume:**

$$MPCx^{cash} \equiv \frac{d(x^*)}{dy_1} \text{ and } MPCx^{SNAP} \equiv \frac{d(x^*)}{db_1}$$

where x denotes f, n or b and x^* indicates the consumer's choice of expenditure on good x.

Mental accounting and non-fungibility

- When SNAP benefits are inframarginal, mental accounting ($\kappa > 0$) is necessary and sufficient for SNAP to be non-fungible.
- Moreover, for $\kappa > 0$,
  - $MPCf^{Cash} < MPCf^{SNAP}$
  - $MPCn^{Cash} > MPCn^{SNAP}$
  - $MPCb^{Cash} > MPCb^{SNAP}$

Relationship to Empirical Work

- Proxy for consumption and temptation good ER visits for drug and alcohol use, and proxy for non-food with new prescription drug fills
- Empirical evidence is consistent with mental accounting:
  - Rejection of fungibility (i.e., $MPCb^{Cash} \neq MPCb^{SNAP}$ and $MPCn^{Cash} \neq MPCn^{SNAP}$)
  - Combined with existing evidence that SNAP benefits are inframarginal
- With mental accounting, empirical results consistent with theoretical predictions: $MPCb^{Cash} > MPCb^{SNAP}$ and $MPCn^{Cash} > MPCn^{SNAP}$

Relationship to Empirical Work

- Concern: Model is about the impacts of permanent transfers, while empirical evidence is about impacts of the timing of transfers within a "payment cycle"
  - In presence of mental accounting and self-control problems, we have proven that non-fungibility in response to permanent transfers implies non-fungibility in response to the within-month timing of benefits (and vice versa)
  - Magnitude of within-month cycle (weakly) understates consumption responses to permanent change in policy
  - (As an aside, magnitude of "spike" in consumption could be used to calibrate β with precise knowledge of income process and savings/borrowing constraints)

- Additional related concern: Different MPCs out of SNAP and cash may also be consistent with no cash on hand
  - This would break relationship between non-fungibility in response to permanent transfers and within-month non-fungibility
  - But, we find similar results for SNAP when limited to sample receiving SNAP benefits early in month following SSI payments

Planner's problem

Consider paternalistic social planner choosing y_1 and b_1 to maximize consumer's utility ***evaluated at*** $\beta = 1$ ***and*** $\kappa = 0$:

$$\begin{aligned} \max_{y_1, b_1} \quad & U^{SP}(\beta = 1, \kappa = 0) \\ \text{s.t.} \quad & y_1 + b_1 \leq \bar{y} \\ & \text{consumer maximizes } U \text{ given } y_1 \text{ and } b_1 \end{aligned} \tag{1}$$

Optimal benefit mix: Theorem 1

- Without self-control problems ($\beta = 1$), planner's optimal transfer is all cash
- With self-control problems ($\beta < 1$), planner uses SNAP to increase food consumption, thereby reducing over-consumption of the temptation good.
  - With mental accounting ($\kappa > 0$), $MPCb^{cash} > MPCb^{SNAP}$, so planner swaps some of the cash for SNAP
  - Without mental accounting ($\kappa = 0$), planner increases SNAP above the inframarginal threshold, directly increasing food consumption
- Self-control problems are necessary and sufficient for optimal SNAP share > 0
  - Mental accounting is neither necessary nor sufficient

Optimal benefit mix: Theorem 2

- With $\beta < 1$, optimal SNAP share of transfer is (weakly) decreasing in mental accounting (κ) and (weakly) increasing in self-control problems (i.e., decreasing in β)
  - As β decreases, individual's choices get further away from social planner's preferred choices, so planner chooses larger SNAP share to "distort" choices more
  - As κ increases, need smaller SNAP benefit to induce a given increase in food consumption
  - For κ sufficiently small, planner hits infra-marginality constraint and switches to increasing food consumption directly through kink in budget constraint
- Implication: If mental accounting is sufficiently strong ($\kappa > \kappa^*$), the planner will choose a SNAP benefit share that preserves the infra-marginality of SNAP benefits.

Alternative policy instruments

- With no heterogeneity (i.e., representative agent):
  - Optimal Pigouvian tax on the temptation good (i.e., the "bad") outperforms SNAP
  - Optimal linear food subsidy is equivalent to optimal "SNAP and cash"

- With heterogeneity across consumers in κ and β, SNAP can outperform optimal Pigouvian tax on the "bad"
  - Intuition comes from considering extreme case with two types: self-control problems, mental accounting and no self-control problem, no mental accounting
    - Optimal uniform Pigouvian tax can't achieve first best (Diamond 1973)
    - Inframarginal SNAP transfer provide a way to only distort behavior of those with self-control problems

Alternative paternalistic planner problems

1. **Weighted average planner utility ("average of selves")**
   - Instead of maximizing $U^{SP}(\beta = 1, \kappa = 0)$, planner could maximize a weighted average of this utility and the individual's privately optimal utility U; with weight ω on individual's U, this is identical to planner having a $\beta' = 1 - \omega + \beta * \omega$ and $\kappa' = \omega * \kappa$
   - Can easily generalize to allow for different weights ω_β and ω_κ

2. **Non-Welfarist Social Planner**
   - The planner is not trying to fix a $\beta - \delta$ "internality", but is instead trying to maximize a separate utility function that is a function of individual consumption; e.g., maximize

$$U = \alpha_{f_1}^{SP} \log(f_1) + \alpha_{f_2}^{SP} \log(f_2) + \alpha_{n_1}^{SP} \log(n_1) + \alpha_{n_2}^{SP} \log(n_2) + \alpha_{c_1^b}^{SP} \log(c_1^b)$$

   which is same as planner solving for optimal SNAP share to give $\phi^{SP} = \frac{\alpha_{f_1}^{SP} + \alpha_{f_2}^{SP}}{\sum \alpha_j^{SP}}$

Calibration

- Calibrated parameters
  - $\beta = 0.7$ (Frederick, Lowenstein and O'Donoghue 2002; Andreoni and Sprenger 2012)
  - Cobb-Douglas preference parameters (α_g and α_f) calibrated to match CEX shares of spending on food and temptation goods of 20% and 3%
  - κ calibrated to match existing empirical evidence on the *MPCf* out of cash and SNAP
    - $0.5 < MPCf^{SNAP} < 0.6$ from Hastings and Shapiro (2018) implies $0.043 < \kappa < 0.080$
  - Calibrate $\gamma = 0.95$ to match ratio of drug and alcohol ER rates for SSI sample with vs. without prior behavioral health issues

- Findings:
  - Optimal SNAP share of food spending is about 10 percent; with heterogeneity in β and κ and perfect negative correlation can get optimal SNAP share as high as 24%
    Heterogeneity results
  - Can increase optimal SNAP share further moving to CES (away from Cobb-Douglas) if food and temptation goods are closer substitutes in demand than food and non-food
  - Implication: SNAP benefits may be "overly paternalistic" (since actual SNAP share of food spending is about 40 percent)

Conclusion

Non-fungibility: Empirics Dollar for dollar,

- Cash increases ER visits for drug and alcohol use more than SNAP does
- Cash increases fills of new prescriptions more than SNAP does

Non-fungibility: Theory

- Paternalistic social planner chooses strictly positive SNAP share to reduce over-consumption of temptation goods when consumers have self-control problems
- Mental accounting leads to higher *MPCf* out of SNAP than cash and smaller *MPCb* out of SNAP than cash; planner therefore use mental accounting to reduce consumption of temptation good by "swapping" cash for SNAP
- With heterogeneous agents, social planner may prefer SNAP to optimal uniform Pigouvian tax on temptation good
- Calibration results suggest SNAP benefits are "overly paternalistic"

THANKS!

Backup Slides

SNAP benefits

Last Digit of Case Number	Day of the Month (before 9/1/2012)	Day of the Month (before 9/1/2012)
1	1	11
2	2	2
3	3	13
4	4	4
5	5	15
6	6	6
7	7	17
8	8	8
9	9	19
0	10	10

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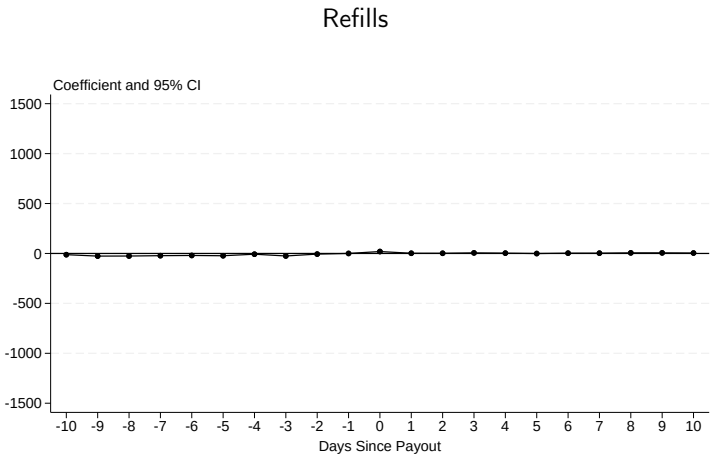
Refills: SNAP



- Increase of about 20 (3% relative to mean of 751)

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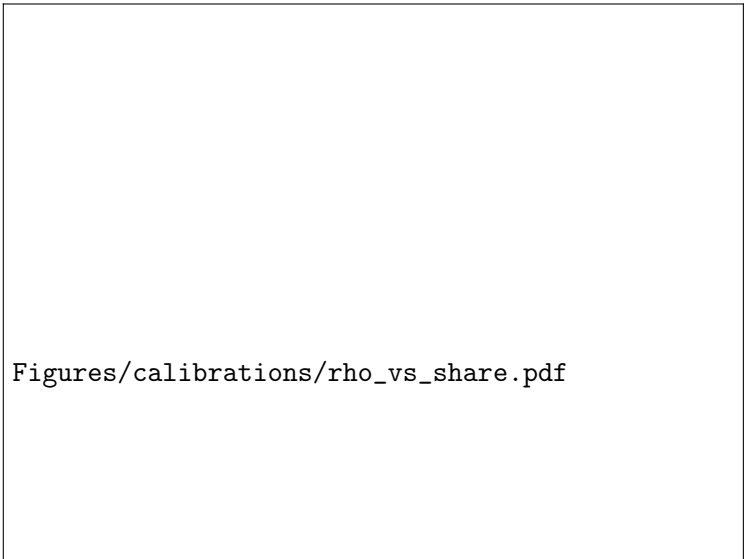
Optimal Snap Share of Food Spending



- Optimal SNAP share is decreasing in the correlation between β and κ