Take-Up in Social Assistance Programs: Theory and Evidence

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Fourth IESR-GLO Conference
24 June, 2021

Motivation

- The "One Yuan on the Sidewalk" Question
- A person is walking down the sidewalk in Beijing and sees 1 Yuan on the sidewalk: they don't pick it up. Why not?
- This person does pick it up! So: some pick it up, and some do not.
- Figure 1


中国人民银行
1
alamy

- This occurs in many subfields of transfer programs:

  [1] People do not take advantage of tax provisions that would reduce their taxes

  [2] Some people do not apply for Unemployment Benefits even though they could

  [3] Takeup of retirement benefits
- And, in many, many other applications, individuals do not seem to take advantage of opportunities they are offered
- In economics, we assume there must be a reason: people are rational; there must be some barrier, cost, or something related

Some U.S. transfer program takeup rates

1. Food Stamps (food for the poor): 83%
2. AFDC/TANF (cash program for the poor): 29%
3. Medicaid (medical program for the poor): 67%
4. Government subsidized housing: 24%
5. EITC (tax credit for low-wage workers): 80%

Note: These are rates of takeups of *money eligibles*

- Dibao: China
- Other countries: Mexico, other South American countries

Outline

1. Theories
2. U.S. Evidence
3. Dibao

Theories

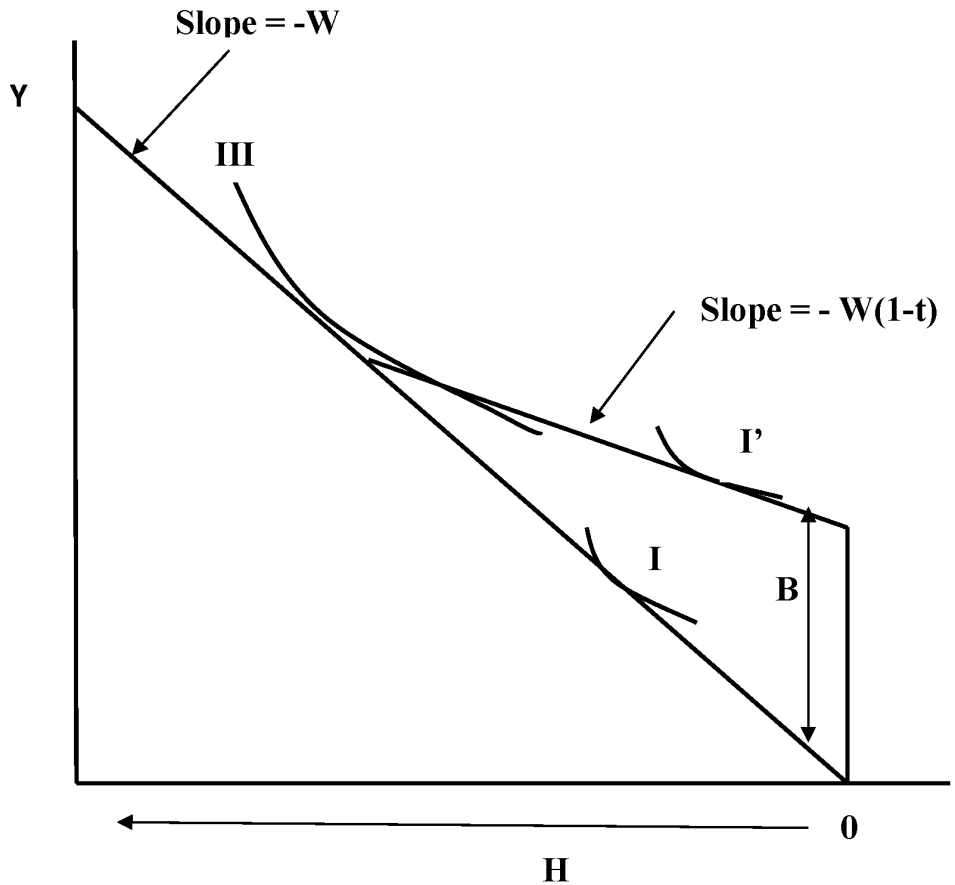
1. Mismeasurement
2. Costs
3. Stigma
4. Information
5. Program constraints

Mismeasurement

- In most cases, have to use different data set to measure eligibility and participation
- If eligibility rules are complex, could make a mistake
- But no need to spend any time on this one: errors are likely small relative to how far below 100% takeup rates are

- One measurement problem: if labor supply is endogenous, then it is not clear how to measure who is eligible
- Could compute a slightly larger "eligible" population
- Table 2

Person III is initially ineligible but reduces income to become eligible



Costs

- Effort ("hassle") costs; Money costs; Time costs
- Effort: filling out forms, understanding the rules, dealing with the government; these costs can be greater or smaller, even holding fixed time and money costs
- Money costs: transportation costs, costs of obtaining documents
- Time costs: time spent visiting the government office, time traveling, etc.
- Note: no distinction made between costs of applying and (on-going) costs of participation; need a dynamic model for that

Model:

$$U(Y_{net}) - \psi P \tag{1}$$

$$Y_{net} = B + W(H - c_t P) - c_m P \tag{2}$$

where Y_{net} is net income, P is a participation indicator (0,1), B is the program benefit, W is the hourly wage rate, H is (fixed) hours of work.

Effort costs $= \psi$
Money costs $= c_m$
Time costs $= c_t$

- So

$$P^* = U[B + W(H - c_t) - c_m] - U[WH] - \psi \quad (3)$$

$$P = 1(P^* \geq 0) \quad (4)$$

where $1()$ is the indicator function.

The issue is whether the potential B is high enough to outweigh the 3 costs

Those with higher W lose more income and hence (c.p.) are less likely to participate unless $H = 0$ (even if eligible)

(And if U is concave, lower W individuals will have a higher utility gain from participating, c.p.)

Stigma

- There are two types: "internal" stigma and "external" stigma
- Internal stigma: feelings of negative self-worth, loss of self-esteem
- External stigma: disapproval by others who observe you to receive benefits
- Besley-Coate (1992) has a good discussion, cites sociological literature

- Internal:

$$U(Y_{net}) - \psi P \tag{5}$$

$$Y_{net} = B + WH \tag{6}$$

so it is equivalent to effort costs; disutility of participating

$$P^* = U[B + WH] - U[WH] - \psi \tag{7}$$

$$P = 1(P^* \geq 0) \tag{8}$$

- External

$$U(Y_{net}) - \psi P(1 - \overline{P}) \tag{9}$$

where $\overline{P}$ is mean participation in your peer group, geographic area, etc.

$$P^* = U[B + WH] - U[WH] - \psi(1 - \overline{P}) \tag{10}$$

$$P = 1(P^* \geq 0) \tag{11}$$

Besley-Coate (1992), Lindbeck et al. (1999), Bertrand-Luttmer-Mullainathan (2000), Nechyba (2001)

- But this sets up a social interactions model where an equilibrium $\overline{P}$ is one where the fraction of individuals choosing $P = 1$ by maximizing U equals the $\overline{P}$ that is affecting their decisions

  Manski (1993), Moffitt (2001), Brock-Durlauf (2001)

  Can get multiple equilibria, some stable and some unstable
  Policy (B) can move you from one equilibrium to another

- Note: level of group participation could also affect level of information (see next model)

Information

- Can be set up different ways
- Here, assume an eligible has a subjective probability p^s that they are eligible
- Decide whether to apply, and assume there is an application cost ϕ
- If apply, utility is $p^s U(B + WH) - \phi$
- If do not apply, utility is U(WH)
- Since they are eligible, if they apply, they will be accepted, so

$$P^* = p^s U[B + WH] - U[WH] - \phi \tag{12}$$

$$P = 1(P^* \geq 0) \tag{13}$$

- Two additions: (i) government provision of information and (ii) private information acquisition
- In both cases, assume the individual is uncertain and $p^s = p + \epsilon$
- At this general a level, no need to assume that ϵ is mean zero
- Government can provide information, I_g, so $p(I_g)$
- Individual can acquire information at some cost, c, which lowers the variance of ϵ (or moves p)

Program Constraints

- Extreme case: quota
- To the individual, there is a probability of being accepted; same model as information
- Unclear what the government objective function is
- For a given budget expenditure, could offer a lower B to more people
- Is a distributional issue: if there is a quota, are priorities assessed?

More General Program Constraints Model

- Government has an objective function: V(Expenditure, Assistance to the Poor)
- Instead of a quota, government chooses a probability of acceptance to an applicant

$$Q^*(X) = f(X) + \nu \tag{14}$$

$$Q = 1[f(X) + \nu \geq Q_{min}] \tag{15}$$

where
Q^* = value of providing assistance to a person with observed characteristics X and unobserved (to the econometrician) characteristics ν
Q_{min} = cutoff value for providing assistance
$Q = 1$ if the applicant is accepted

- Individuals choose to apply or not, under uncertainty about ν but with knowledge of Q_{min}.
- Government knows the application supply function $P[Q_{min}]$
- Government maximizes V by choosing Q_{min} subject to the application supply function, knowing that choosing Q_{min} will determine both expenditures and who receives assistance.
- TakeUp fraction is the fraction of the eligible population for whom $\{P = 1, Q = 1\}$
- Government has other tools: ϕ, for example (can increase application cost)

Who Receives Assistance?

- In the Program Constraints model, the government decides who receives assistance
- In the other models, those with the highest utility of participating receive assistance, conditional on costs, stigma, and uncertainty
- In most models, those with the highest MU of participating are those with the greatest "need" (=low W; could add other variables)

- But if costs, stigma, or uncertainty are correlated with W, could get different results
- For example, if those with the lowest levels of education have the most difficulty applying and/or complying during participation, they may be less likely to participate
- Or those with low levels of education may be the least knowledgeable and face the greatest subjective uncertainty

Nichols-Zeckhauser

- Noted that imposing lump-sum costs on participation can be welfare-improving if those with low MU of participating are discouraged from participating more than high-MU individuals
- Money-savings from discouraging low-MU individuals from participating can be reallocated to the program, benefitting high-MU individuals
- There is therefore a social planner rationale for imposing costs on application and participating
- But have to be sure that those do don't participate are not those who have the lowest W and the most difficult time complying

Dynamic Models

- Can separate application cost from compliance cost
- Learning: about true probability of eligibility
- Learning about ν
- Most of these imply that the probability of takeup is higher than in the static model, because there is a future payoff from applying today

Moffitt 1983

- Assuming internal stigma
- Cited literature from sociology
- Participation rates in the AFDC program about 1/3
- Participation negatively related to W, positively affected by the potential benefit
- Static selection bias model of labor supply

Fraker-Moffitt 1988

- Same as Moffitt (1983) but 2 programs: AFDC and Food Stamps
- Participation rates of .41 and .44, .37 in both
- Positive effects of benefits, negative effects of W
- Large positive correlation in stigma in the two programs

Hoynes 1996

- An old two-parent cash program, models joint family labor supply
- Participation rate .08

Keane-Moffitt 1998

- Extended to 3 programs: AFDC, Food Stamps, and government housing
- .08 participate in all 3
- Used administrative expenditures in local areas as instrument for participation
- Model for housing did not fit well: program has quotas and no apparent priorities

DaPonte 1999

- Food Stamps
- RCT in Pittsburgh: randomly gave treatment group information about their likely eligibility
- Large increase in takeup
- Implies importance of information
- But information acquisition is endogenous: those with lower incomes and higher potential benefits are more likely to have acquired information

Currie-Grogger 2002

- Food Stamp program; "recertification intervals": the number of months in between the times when the family has to travel to the government office to "recertify' eligibility
- Found that the shorter the interval, the lower the participation rate
- Implies the importance of costs

Currie 2006, 2008

- Review of reasons for non-takeup up to that time
- Lists stigma, costs, and information
- There is more evidence for the importance of costs and information than stigma, but stigma is hard to measure
- Reviews current evidence on whether the worse-off families or the better-off families are not taking up the program; evidence too scanty to reach conclusions

Ham-Shore-Sheppard 2014

- Medicaid program, takeup rate is .51
- But emphasize is on heterogeneity
- For different groups, ranges from .12 to .79
- A function of demographic characteristics (children, etc.)
- But also need: the neediest/lowest income families have higher takeup rates

Bhargave-Manoli 2015

- EITC (tax credit) has takeup .75
- RCT with mailings to taxpayers known to be eligible but did not receive
- Eliminates cost as a consideration (easy to return an application) and assumes stigma is low
- Large positive response to providing information
- Information therefore important

Gray 2019

- Food Stamps recertification again
- One half of those who do not show up to recertify were, in fact, eligible
- Tested provided more information in a simplified way: increased takeup

Deshpande-Li 2019

- Disability program: many offices were closed, requiring individuals to travel further to an office
- Led to 16% decline in takeup
- Points to costs

Finkelstein-Notowidigdo 2019

- Had admin data on elderly in the so-called Medicare program
- Calculated Food Stamp eligibility; only .42 eligibles taking up Food stamps
- RCT, treatment group 1 got information on eligibility
- Treatment group 2 got information + assistance with applying
- Both increased takeup, group 2 more than group 1
- So both information and costs are important
- Also found that new participants were less needy than those initially on Food Stamps (but there was still a needy non-takeup group)

Moffitt 2019

- Studied AFDC program in 1980s, when states imposed administrative barriers
- Using cross-state variation in barriers and denial of eligibility
- Had large effects on participation
- Implies importance of political constraints
- Consistent with Herd-Moynihan (2018) on "Administrative Burdens": they are an intentional policy lever

Homonoff-Somerville 2020

- Similar to Currie-Grogger (2002) and Grey (2019) but has arguably more random variation in recertification intervals
- Same finding: more frequent recertification lowers takeup

DiBao

- Rural minimum living standard program, one of the largest in the world
- Began in the 1990s, went national in 2007
- Provides unconditional cash assistance to those with incomes below a locally-set minimum
- "Fill the gap" between threshold and family income (so: 100% marginal tax rate)
- Beneficiary selection and benefit amounts also determined locally
- Is an urban dibao program but it is separate

- A concern about targeting
- A large fraction of recipients may not meet the eligibility conditions and a large fraction of those who do not take up are eligible (only 20% takeup of eligibles?)
- Variation in application: in some areas, it is open, but in others "by invitation"
- Village committees target beneficiaries and screen applicants
- U.S. history: too much local control leads to "administrative discretion" (including deciding who is "deserving")

- But determining rural income is difficult because so much income is agricultural and/or in-kind
- Ways of calculating income vary across areas
- Often use physical assets, housing, etc. (similar to Progresa in Mexico)
- Makes it difficult to estimate takeup, since measurement error is large: calculating eligibles on the basis of survey incomes may not correctly measure eligibility

- Given the very local nature of the rural Dibao program, non-takeup is less likely to be a result of stigma, lack of information, or costs
- Although the personalized nature of local villages is hypothesized to contribute to stigma
- More likely to be the result of program constraints (meaning government strategies on who is allowed onto the program)

- There is a large literature on the benefits and costs of local control, and it is a hotly debated issue in the U.S., politically speaking
- Many in the U.S. prefer a mixed system: the central government imposes some restrictions on the localities (general sets of eligbility rules, minimum benefits possibly adjusted for cost-of-living, etc.) but also leaves some discretion to the localities
- Finding the right balance is difficult: restricting localities too much will prevent programs from adapting to local circumstances, but too few restrictions allows localities to follow policies inconsistent with national/central preferences
- Also need a central government monitoring function to visit and inspect local operations

- Thank you for listening to my thoughts
- Feel free to email me at moffitt@jhu.edu with comments.

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