

# 14.472 Public Finance II

## Topic V\_c: Cash vs. In Kind

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Fall 2020

# In-kind transfers are widespread and large

**Table 1: Public Expenditures on Four In-Kind Programs, Selected OECD Countries**

|                       | Health<br>%GDP 2002 | Housing<br>%GDP 2001 | Child Care<br>%GDP 2003 | Education<br>%GDP 2003 | Active Labor<br>Market<br>%GDP 2001 |
|-----------------------|---------------------|----------------------|-------------------------|------------------------|-------------------------------------|
| <b>Australia</b>      | 6.1                 | 0.1                  | 0.4                     | 4.7                    | 0.1                                 |
| <b>Austria</b>        | 7.6                 | 0.1                  | 0.6                     | 5.1                    | 0.1                                 |
| <b>Canada</b>         | 6.7                 | ..                   | 0.2                     | 5                      | 0.4                                 |
| <b>Denmark</b>        | 7.3                 | 0.7                  | 1.6                     | 7.3                    | 0.2                                 |
| <b>France</b>         | 7.9                 | ..                   | 1.2                     | 5.2                    | 0.4                                 |
| <b>Germany</b>        | 8.4                 | ..                   | 0.4                     | 4.2                    | 0.3                                 |
| <b>Greece</b>         | 4.6                 | ..                   | 0.4                     | 3.9                    |                                     |
| <b>Ireland</b>        | 5.4                 | 0.5                  | 0.2                     | 4.3                    | 0.4                                 |
| <b>Japan</b>          | 6.5                 | ..                   | 0.3                     | 3.3                    | 0.1                                 |
| <b>Netherlands</b>    | 5.6                 | 0.4                  | 0.5                     | 4.7                    | 0.4                                 |
| <b>New Zealand</b>    | 6.4                 | 0.6                  | 0.4                     | 6.5                    | 0.1                                 |
| <b>Norway</b>         | 8.2                 | 0.2                  | 1                       | 7.1                    |                                     |
| <b>Portugal</b>       | 6.5                 | ..                   | 0.8                     | 5.3                    | 0.1                                 |
| <b>Spain</b>          | 5.2                 | 0.2                  | 0.6                     | 3.8                    | 0.4                                 |
| <b>Sweden</b>         | 7.7                 | ..                   | 1.2                     | 7                      | 0.2                                 |
| <b>United Kingdom</b> | 6.4                 | 1.5                  | 0.6                     | 5                      |                                     |
| <b>United States</b>  | 6.6                 | ..                   | 0.6                     | 5.3                    | 0.2                                 |

Source: Currie and Gahvari (2008)

# In-kind transfers

- Definition (Currie and Gahvari 2008) "physical provision of a good, targeted subsidy programs in which government pays some fraction of the market cost of the good, and vouchers"
- Health insurance: Medicare and Medicaid; tax subsidy for employer provided health insurance and subsidies on health insurance exchanges
- Nutrition: e.g. Food stamps, School lunch, WIC
- Housing: e.g. Section 8 vouchers, public housing
- Education: public primary / secondary and post secondary; financial aid for post-secondary
- Job training assistance

- Today: Brief discussion of economic rationales for in-kind transfers
- Subsequently: How can we empirically value in-kind transfers?

# In-kind transfers 101

- Basic economics says cash dominates in-kind
  - Cash superior in terms of recipient utility, since in-kind constraints recipient behavior
  - So why ever have in-kind transfers?
- Costs of in-kind vs. cash:
  - In kind may have higher administrative costs -e.g. public housing vs cash
    - but see corruption / theft issues in developing countries
  - Government has efficiency value in producing it?
- Several rationales for why benefits of in-kind may exceed cash

# Potential rationales for in-kind transfers:

- Paternalism
  - Stronger: Individual consumption choices fail to maximize own utility
  - Weaker: Agency problems within family - family doesn't maximize child well being
- Merit goods (Musgrave 1959)
  - Want to encourage consumption of certain types of goods
    - Society cares about certain consumption goods for poor over and above effect on poor's utility (e.g. healthcare, food)
  - Recall Kaplow critique of non-individualistic social welfare functions
- "Consumption externalities"
  - Interdependent preferences - my utility depends on your consumption
  - Preserves individualistic social welfare function
  - How distinguish empirically from merit goods?

# Potential rationale for in-kind transfers (con't)

- "Commodity specific egalitarianism" (Tobin 1970)
  - Income inequality tolerated but want basic food, medical services, housing needs met
  - Can be individualistic or non individualistic
- Political economy (easier to "sell" this form of redistribution)
  - perhaps because of paternalism, merit goods, consumption externalities and/or commodity-specific egalitarianism
- Market failures
  - e.g. Insurance may be valued at more than cost and may not be provided by unregulated market (market failures like adverse selection)
  - e.g. liquidity constraints may interfere with efficient allocation of elementary school education (can't borrow against future human capital)

# Potential rationales for in-kind transfers (con't)

- **[Will Discuss]** Price / pecuniary effects (Coate et al. 1994)
- **[Will Discuss]** Insurance against commodity price risk (Gadenne et al. 2020)
- **[Will Review]** Screening or self-targeting (Nichols and Zeckhauser 1982)



# Price / pecuniary effects of in-kind transfers

- Cash transfers or subsidies for specific goods increase demand for normal goods, which increases their price
- direct in kind transfers (public provision) similarly increase demand but also increase supply which lowers prices
  - e.g. if provide food in kind, this increases supply of food
  - relative to cash transfers, in-kind transfers can therefore be price reducing
  - because of supply effect, can be more effective potentially than cash transfer for a given government expenditure

# Pecuniary Effects: Empirical Evidence

- Cunha, De Giorgi and Jayachandran (2018 Restud) "Price Effects of Cash Versus In-Kind Transfers"
- Re-examine a 2003 RCT in rural Mexico that randomly assigned 200 villages to receive either boxes of food (trucked into the village), equivalently valued cash transfers, or no transfers
  - Original purpose: study impacts on food consumption and malnutrition
  - Very nice example of re-purposing an empirical setting (**we should do more of this!**)
- Find evidence of pecuniary effect: food prices significantly lower under in-kind transfers compared to cash transfers
  - Relative to control, in kind transfers reduced food prices by 4 percent, cash transfers had a positive but negligible effect on prices
  - Price effects larger in remote villages (bigger supply side effect)

# Pecuniary Effects: Housing

- Construction of public housing
  - Desmond (2016 "Evicted") claims national association of realtors lobbied for vouchers over public housing because of concerns that public housing would reduce rental prices
  - "In policy circles, vouchers were known as a 'public private partnership'. In real estate circles, they were known as 'a win'."
  - Any evidence from construction (or destruction) of public housing? (Hector Blanco, in progress!)
- Diamond and McQuade (JPE 2019) Study Low Income Housing Tax Credit
  - Funds multifamily housing developments for projects that will meet low income occupancy requirements
  - Find positive externalities on low income neighborhoods: increases house prices, lowers crime, and attracts racially and income diverse populations
  - In high income neighborhoods it causes house price declines and attracts lower income households

# Commodity Price Risk

- In-kind transfers provide insurance against commodity price risk
  - Gadenne, Norris, Singhal and Sukhantar (2020)
- Optimal transfers: price-indexed cash transfers to equalize marginal utility of income across price states
  - Note: not equalizing consumption; may want to substitute in response to changes in relative prices
  - Often infeasible because local prices are difficult to observe at high frequency

# Commodity Price Risk

- Infeasible first best: price-indexed cash transfers to equalize marginal utility of income across price states
- Compare second best alternatives: price-invariant cash transfers and in-kind transfers
  - in kind transfers preferred as long as the high marginal utility states are also high price states (and households are inframarginal)
- Empirical application in India
  - Key challenge: measuring marginal utility of income
  - Cool proxy: household following below minimum calorie requirement (MCR)

- Negative covariance between price of rice and caloric intake:
  - 10% increase in market price of rice associated with a 1.1 percentage point decline in households meeting MCR
- Expansion of India's in-kind food transfer program reduces sensitivity of MCR to market prices
  - Consistent with in-kind transfers providing insurance against food price risk.

# Screening Reminder

- Want to redistribute based on an unobserved characteristic (e.g. ability). Key insight:
  - 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
  - Example: in kind vs cash transfers
    - General economic view: cash dominates (allow people to optimize unconstrained).
    - But N-Z argue that in kind vs cash can improve self-targeting if increases cost of participation more for high ability than intended recipients (low ability)
- Basic idea: Tradeoff between productive efficiency and targeting efficiency
  - Design of optimal second best transfer policy may involve sacrifice of productive efficiency

# Screening using cash vs in-kind transfers

- Lieber and Lockwood (2019 AER) "Targeting with in-kind transfers: evidence from Medicaid home care"
  - Another nice example of repurposing a previously done RCT!
- Consider the government's choice between in-kind and cash benefits.
  - Government budget can be allocated across a cash benefit and a subsidy to some good.
  - Analyze the welfare impacts of a budget-neutral shift toward in-kind benefits that increases the subsidy rate while decreasing the cash benefit to make it budget neutral
- Use framework to analyze costs and benefit of in-kind vs cash



# In kind vs cash

- Basic tradeoff: cash is more valuable but in kind may be better at targeting transfers to higher-marginal utility states
- Cost of in kind: moral hazard
  - Subsidy to good distorts consumption of good above efficient point (where  $WTP = SMC$ )
- Potential benefits of in-kind: targeting
  - Across individuals: unobserved value of formal care (e.g. cost of informal care; unobserved nature of health condition)
  - (new focus of theirs) Within individuals across states: health not verifiable; by making the transfer in kind, may be better able to target poor health states
    - This applies to in kind transfers of insurance
    - e.g. don't pay lump sum for hip replacement bc want to target people who actually need it.

# Application: Medicaid home care

- Medicaid home care expenditures are large and growing fast.
- Is in-kind preferable to cash?
- Framework guides empirical objects needed

# Application: Medicaid home care

- Price elasticity of demand for home care (determines magnitude of moral hazard)
  - Estimate using RCT from Cash and Counseling experiments - randomized into either traditional in-kind home care benefit or near-cash
  - Find substantial moral hazard: home care consumption doubles with in-kind vs cash.
- Heterogeneity in demand for formal care within eligibility population
  - Look at distribution of formal care consumption among eligibles. Find substantial residual variation conditional on even rich observables.
  - Suggests tagged cash benefits would not have great targeting properties (a lot of residual heterogeneity)
- Examine targeting of in-kind provision by looking at covariance between benefits paid out and proxies for marginal utility (e.g. health)
  - Find in-kind sharply concentrates benefits on small fraction of benefit-eligible states in which people are sicker, have worse informal care options, and have greater demand for formal care

- Substantial moral hazard - in kind provision significantly reduces value of benefits (vs cash)
- But substantial improved targeting - in kind provision concentrates benefits on high marginal utility states of the world
- On net: in kind benefits are much less valuable to recipients but cash leaves much of the risk uninsured (can't target the high marginal utility states)
- "Under a wide range of assumptions within a standard model, the targeting benefit of in-kind provision exceeds the distortion cost"

# RCT on cash vs. in kind in Ecuador

- Hidrobo et al. (2014) Journal of Development Economics
- Impact and cost effectiveness of cash vs food vouchers vs food transfers
- In addition to targeting and price effects benefits, in developing countries, there may be theft reduction benefits from in kind

# Food vs Food Stamps

- Banerjee et al. (in progress): "Food vs. Food Stamps: Evidence from an at-scale experiment in Indonesia"
- Compare in-kind food transfers vs vouchers to purchase food on private market
  - US analog: Trump proposal for "Food Boxes" vs Food Stamps / SNAP
- Conceptually:
  - vouchers more flexible (in kind may constrain consumption choices)
  - in kind may reduce relative prices (supply effects)
  - if in kind good is inferior, may improve targeting via self-selection
  - Administrative considerations:
    - voucher may be easier to refill than moving millions of tons of rice
    - voucher may have less leakage (food is divisible voucher is not)

# Food vs Food Stamps

- Randomized entire districts (average population 500,000) to switch from existing in-kind food transfer to electronic food vouchers
- Findings suggest that change from in-kind to voucher substantially changed program impact
  - Vouchers were much more targeted at poor, despite higher quality food purchased and greater fungibility of aid
  - Vouchers cut down on leakages from sub-dividing and spreading in-kind food aid across village

# Economic rationales for in-kind transfers: remarkably little empirical evidence

- Targeting: Better at screening than cash?
  - Very very limited empirical evidence (Lieber and Lockwood 2019 as only example I know?)
  - Pretty amazing given how often it's talked about!
- Pecuniary effects - supply side effect on local prices
  - Cunha, De Giorgi and Jayachandran (2018) and Diamond and McQuade (2019) are the only examples I know
- In-kind valued more or less than cash?
  - How to empirically value in-kind transfers?
  - Will look at in health insurance (Medicaid) context after the next lecture on takeup