The Effect of Prescription Drug Coverage on Food Security Among Seniors: An Application of the Two-Sample Instrumental Variables Estimators

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Motivations

Trends of Food Security and Prescription Drug Coverage

Research Questions

1. Did the implementation of Medicare Part D in 2006 reduce food insecurity for seniors?

2. Does prescription drug coverage improve food security for seniors?

Data and Sample Selection

Data (2004-2009) from the Minnesota Population Center:
- Integrated Health Interview Series (IHIS)
- Current Population Survey
- Food Security Supplement in December linked with Annual Social and Economic Supplement (ASEC) in March of the following year

Sample Selection:
- Senior Households: Treatment Households: 35,668, Control Households: 81,895
- Lone Seniors: 6,273 aged 60-69, 1,372 aged 80+

Results from the Two-Sample Instrumental Variables Estimators

First Stage: \[ R_{Xt} = \alpha_0 + \alpha_1 \text{Treat}_{t} + \alpha_2 \text{Post2006} + \alpha_3 \text{Treat}_{t} \times \text{Post2006} + \alpha_4 \text{YearDummy}_{t} + \alpha_5 X_{it} + \epsilon_{it} \]

Second Stage: \[ F_{nt} = \phi_0 + \phi_1 R_{Xh}^{\text{hot}}_{nt} + \phi_2 \text{YearDummy}_{t} + \phi_3 X_{it} + \eta_{nt} \]

Discussions and Implications

- **Senior Households:**
  - Medicare Part D did not alleviate threat and risk of food insecurity for the treated group.
  - No effect of Rx on either threat or risk of food insecurity for non-Medicaid households, while food insecurity increases in Medicaid households.

- **Lone Seniors:**
  - Rx reduces threat of food insecurity for all lone seniors aged 60-69 or 60-85.
  - The results hold for lone seniors who are not covered by Medicaid, while Medicaid seniors experience worse food security situations.
  - Rx also alleviates risk of food insecurity for seniors aged 60-69

- **Implications:**
  - Subsidizing non-food consumption improves food security
  - Policies that reduce out-of-pocket medical spending could generate additional benefits of improving food security for lone seniors.
  - Medicare Part D has a wide-program effect on all lone seniors aged 66-85, and not just lone seniors who recently became eligible for Medicare (66-69).