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Community-based health insurance: improving household economic indicators?

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Community-based health insurance (CBI)

Enrolment modalities:
- Unit of enrolment is the household
- Premium: 1500 CFA (2.29€) adult, 500 CFA (0.76€) child
- Enrolment is yearly

Access to health care
Capitation
Premium

Community-based health insurance
Is there a causal relationship between community-based health insurance (CBI) and household economic indicators in the Nouna Health District?

- Is there an improvement in the household livestock, assets and/or income for the insured overtime.
Unlike randomized trials, in observational studies the intervention (CBI) is not randomized...

Enrolment for CBI is voluntary: we cannot assume that the insured (cases) and uninsured (controls) are similar.

Selection bias

Reverse (2-way) causation
Model

$$\text{Livestock}_{it} = Z_i \cdot \beta_1 + X_{it} \cdot \beta_2 + \text{CBI}_{it} \cdot \beta_3 + u_i + \epsilon_{it} + \delta_t$$

**Livestock}_{it}**: Household ownership of livestock

- **Z_i**: observable time-invariant factors e.g. religion, education
- **X_{it}**: observable time varying factors e.g. age, household size
- **CBI}_{it}**: insured household
- **u_i**: unobservable time-invariant factors e.g. ability, preference
- **\epsilon_{it}**: household-specific time shock e.g. death in the household
- **\delta_t**: sample-specific time shock e.g. drought that effects everyone
Data sources

1. Nouna Health District Household Survey (NHDHS)
   - DSS region: 41 villages & Nouna town
   - 15% of the population (Total population: 67,262)
   - Panel survey (same households interviewed every year)
   - Conducted every year since 2000

(0) Socio-demographic: ethnicity, religion, housing conditions, education...
(1) Socio-economic: assets, livestock, monetary income, expenditures...
(2) Self-reported morbidity: illness episodes, health-seeking behaviour...
(3) Preventive care
(4) Risk-sharing & perceptions on quality of health care
(5) CBI: enrolment decisions, reasons for enrolling...
Data sources

2. Community-based health insurance register
   - List of households and individuals enrolled every year
   - Can be linked to NHD household survey
Preliminary Results
Freq. distribution of HH livestock, uninsured (2003) i.e. before CBI

Median: 59,200 CFA
Mean: 317,613 CFA

N= 313
Freq. distribution of HH livestock, by insurance status (2008)

- Median: 101,000 CFA
- Mean: 235,560 CFA
- Median: 111,500 CFA
- Mean: 309,664 CFA

P < 0.04
Freq. distribution of HH livestock, by insurance status (2003-08)

# of observations for non-CBI HHs are consistently more than for CBI HHs

75% of all observation are < 300,000 CFA – Long tail

Data for HHs with CBI for 2003 and 2005 are not available
Mean HH livestock has declined for insured HHs vs uninsured HHs.

Mean HH livestock is more for insured HHs vs uninsured HHs.

Subsidies attract more needy HHs.
To conclude,

- There appears to be significant difference in the value of HH livestock between the insured and the uninsured.

- Insured HHs have relatively more HH livestock than uninsured HHs.

  1. This could be due to the fact that richer households are enrolling (Subsidies in 2007)

  2. Part of this could also be explained due to an improvement in HH livestock for the insured due to CBI
Thank you

Any questions, comments ...