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Conference Item

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Community-based health insurance: improving household economic indicators?

Divya Parmar

Supervisor: Prof. R. Sauerborn
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
Research Question

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.

Unobserved variables

Selection bias

Reverse (2-way) causation
Livestock_{it} = Z_i \cdot \beta_1 + X_{it} \cdot \beta_2 + CBI_{it} \cdot \beta_3 + u_i + \varepsilon_{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

\varepsilon_{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)

<table>
<thead>
<tr>
<th>Value of HH livestock (CFA)</th>
<th>No. of Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>N= 95</td>
<td></td>
</tr>
<tr>
<td>N= 269</td>
<td></td>
</tr>
<tr>
<td>Median: 101,000 CFA</td>
<td></td>
</tr>
<tr>
<td>Median: 111,500 CFA</td>
<td></td>
</tr>
<tr>
<td>Mean: 235,560 CFA</td>
<td></td>
</tr>
<tr>
<td>Mean: 309,664 CFA</td>
<td></td>
</tr>
</tbody>
</table>

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

- 75% of all observations are < 300,000 CFA – Long tail
- Data for HHs with CBI for 2003 and 2005 are not available
- # of observations for non-CBI HHs are consistently more than for CBI HHs
Analysis of mean HH livestock, by insurance status (2003 - 08)

Mean HH livestock has declined for insured HHs – Subsidies attract more needy HHs

Mean HH livestock is more for insured HHs vs uninsured HHs

Mean HH livestock has declined for insured 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 ...