

Beyond Adverse Selection and Moral Hazard

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Insurance contracts and refunding

Our aim is to quantify

- **Self selection (before choosing insurance):**
 - Adverse selection
 - Effects of « bad » insurance pricing
 - Others
- **Moral hazard (after have chosen insurance) :**
 - Ex ante Moral Hazard (effects on accident occurrence)
 - Ex post Moral Hazard (effects on price for a same accident)

We use large database

The data base contains :

- The whole detailed consumption,
- For 1991 to 1999,
- Of more than 150 000 people,
- With base + complementary refunding

We developed some applications in order

- To verify each expense,
- To detect specific people
 - who have refunding from another insurer,
 - who is fully covered by Social Security, etc.
- To select people according to the specific research

Fist, we study moral hazard (1/2)

With

- a group with external change in garanties
- a temoin group

We prove that

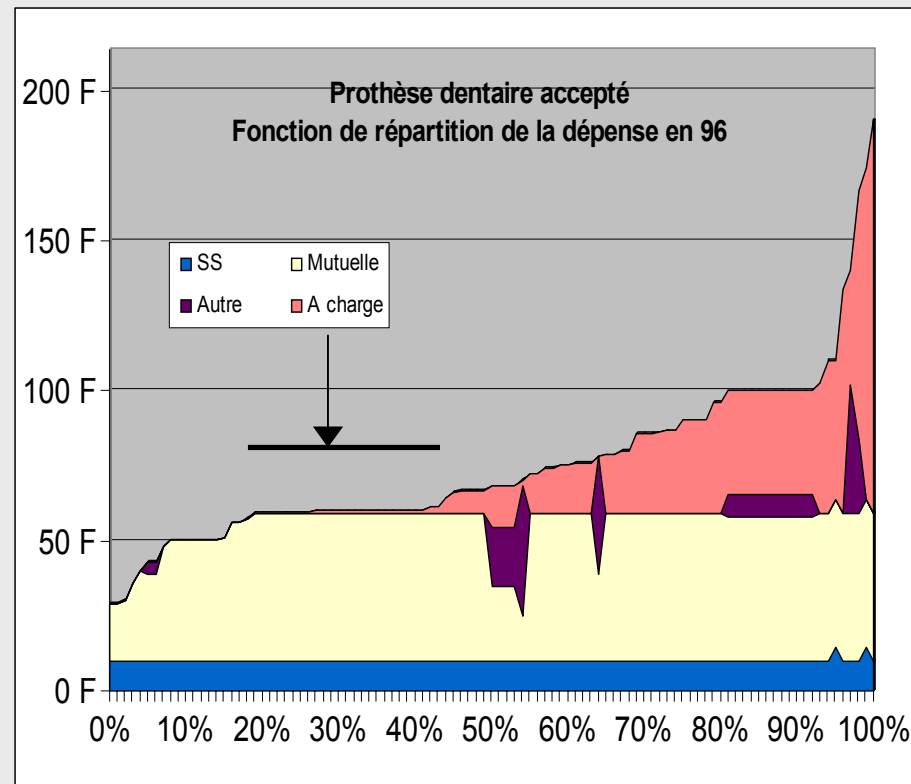
- when the change is not very important (introducing 5% copaiement),
- when coverage is high
- when people has sufficient income

No comportement change occured (or very little in somme cases) in number of acts

Cf Chiappori, Durand, Geoffard (E.E.R. 1993)

Fist, we study moral hazard (2/2)

But with a lot of other firms, we notice that the prices of some acts are corelated with the coverage (some physicians asking for a price depending on coverage)



Then, we study self selection (1/3).

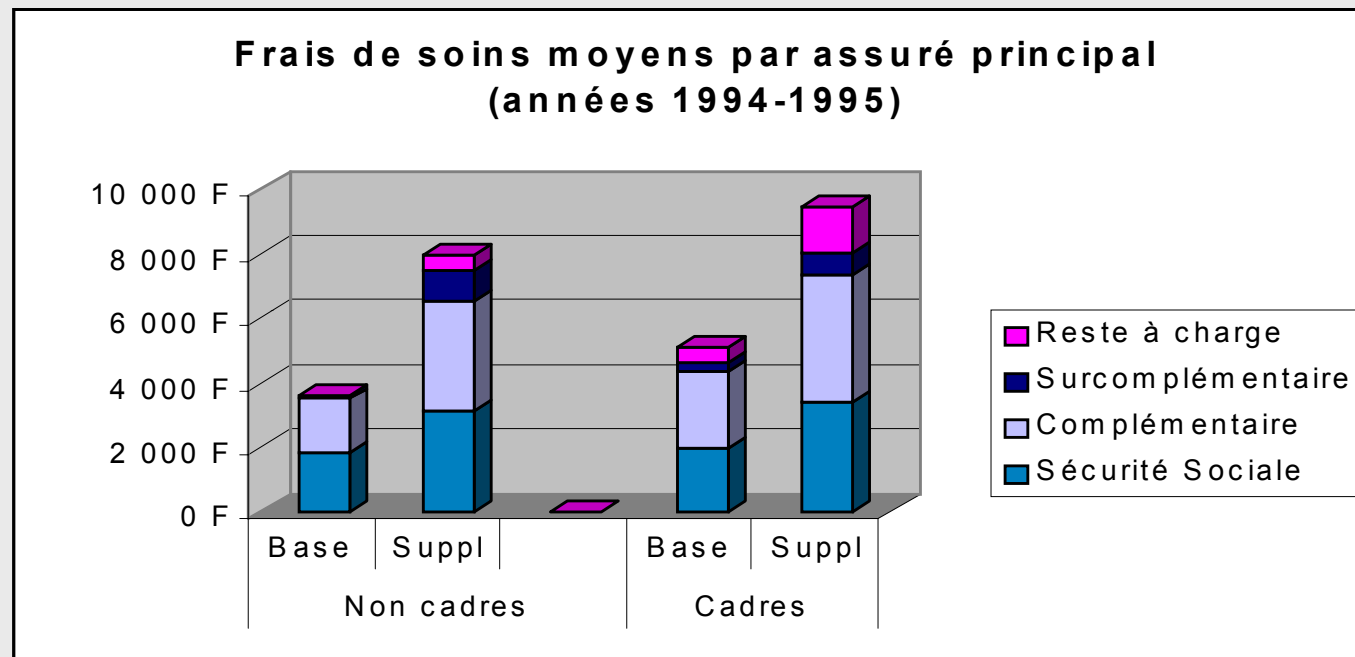
With

- a whole group
- Distinguishing himself in choosing the low or the high coverage between the two ones offered by their employer
 - (prices are dependant on choice but not on age, health...)

we show that refunding is higher for those who
choice high coverage

Then, we study self selection. (2/3)

We show that medical expenses are higher for those who choice high coverage



Then, we study self selection (3/3).

And we prove with Heckman method (based Probit) :

$$s = Xb + \rho\sigma_u r + w \quad \text{où} \quad r = \frac{\varphi(Za/\sigma_v)}{\phi(Za/\sigma_v)} \quad \text{Mills ratio}$$

that, for same known characteristics (sex, âge), those who choose supplementary scheme have higher consumption than other ones.

WHAT'S NEW ?

The optional complementary scheme had advantages

For the firm we studied,

- It generated a net financial contribution to the global economy of the scheme.

=> economic advantage for the firm

- It contributed to increase the actuarial equity among policy holders.

=> social advantage ?

WHY ? We think that it's because those who choosed the higher coverage are very « risk adverse »

An observation (1/2)

- When an agent subscribes an insurance contract, he pays a fixed premium because he is expecting a refunding by the insurer if he has a claim.
- When the agent consults a physician, he exposes an outlay (even not financial, connected to the journey, to the wait, to the consultation, to the pain or to the discomfort, etc.). Moreover, he is expecting that the doctor will contribute to cure him if he is sick.

An observation (2/2)

In both cases, there is a double uncertainty :

Uncertainty of the realization of the hazard

Uncertainty of the repair of the consequences of the claims.

So, may the level of risk aversion explains the higher medical consumption ?

- More preventive consultations ?
- More exams ?

Conclusion (1/2)

Beyond

- adverse selection (before concluding contracts),
- Moral hazard (after concluding contracts),

the differences in medical consumption between those who have a high coverage and others, may result from differences in risk aversion.

Conclusion (2/2)

The research continue....

With your contribution ?

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