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Demand for Supplementary Health Insurance when a NHS Exists: Evidence from Portugal

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Objectivos (Objectives):

National Health Services are a form of health insurance provided by the Government. Despite usual objectives of universality and wide access to care of the National Health Service (NHS), voluntary health insurance (VHI) is also present in countries with NHS. Understanding the motives and determinants of supplementary health insurance is, therefore, key to assess the performance of the NHS. To contribute to this knowledge base we use that from the Portuguese NHS. The purpose of this paper is to explore the factors that drive individuals in the decision of subscribe a VHI contract, as well as discern the determinants of the quantity of coverage. Among all the factors, we will focus primarily on the effect of income, asking whether the income-elasticity of demand has changed in the course of the last decade.

Metodologia (Methodology):

In this work, we specify and estimate two alternative econometric models. Both competing models incorporate that, in this decisional context, individuals may made decisions in two stages.

First specification: in the first stage the individual decides whether or not to subscribe VHI, and in a posterior stage, the individual chooses the (strictly positive) level of coverage. This leads to the well known two-part model (TPM). We adopt two versions of this model, one that assumes that the unobservables of both stages are independent and another that assumes dependence.

Second specification: In the first stage the individual decides whether or not he needs to buy VHI, and in a second stage the individual chooses the level of coverage, which can be zero, that is, due to diverse reasons the individual may choose not to buy VHI. The resulting model is known as the zero-inflated ordered probit model (ZIOP). We adopt two versions of this model, one that assumes that the unobservables of both stages are independent and another that assumes dependence.

The data are taken from the last two editions of the National Health Survey (1998/99 and 2005/06). We merged the two datasets, which have led to a independently pooled cross-section workable database containing information of approximately 50.000 individuals. The dependent variable reflecting the quantity of VHI is an ordered variable ranging from non-VHI to full coverage VHI.

Resultados (Results):

At a methodological level the most relevant result is that, in both families of models, the hypothesis of independence of unobserved heterogeneity in both stages cannot be rejected. Moreover, statistically, both models present similar results in all respects.

Based on the TPM, the model that assumes independence between the two-stages of the decision process, we may report the following findings:

Income has a positive effect on the probability of buying VHI, however, after the first decision, individual's income do not affect the quantity of coverage. Concerning the evolution of the gradient of income in the last decade, our estimates suggest a similar income effect in the years 1998 and 2005. Other individual characteristics, such as age, education and place of residence affect both stages of the decision process.

Conclusões (Conclusions):

Our analysis suggests that the observed increase in the number of individuals enjoying from VHI is not explained by changes in individual's income. In our view, it corresponds to an effort that insurance companies have been making to supply health insurance contracts that meet the specific needs of the population.