



Determinants of Supplementary Health Insurance Demand: Case Study of Iran

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Dear Editor- in- Chief

Voluntary health insurance schemes help those who are not included in social health insurance (1). These are divided into supplementary and self-employed insurance. Generally, the supplementary health insurance provides health facilities in non-governmental sectors for the insured, fills the gap in services and commitments of basic health insurance, (2) makes the room for innovation, diversity and competition in the field of health insurance activities (2). In addition, self-employed health insurance is awarded to persons who work with an employer or alone (self-funding) based on work permits issued by the competent authorities or under the recognition of Social Security Organization (3). This study emphasizes on measuring main determinants of demand for supplementary health insurance.

Data are extracted from website of Statistical Center of Iran in 2012. We select a sample of 4055 urban households and 1594 rural ones.

Due to binary nature of dependent variable (y), we use a Logistic regression model to estimate supplementary health insurance demand (4).

$$\Pr[y = 1] = \frac{\exp(\beta x)}{1 + \exp(\beta x)}$$

y indicates demand for supplementary health insurance and takes 1, if one buys supplementary

health insurance policy, or 0 otherwise. X s consist of both quantitative variables (head of household's age, income and household size) and qualitative variables (head of household's gender, and head of household's education level). Occupation was classified into government employee, non-government employee and the retiree; head of household's marital status was classified into single (base group), married and divorced or deceased. House ownership status was classified into the leased (base group), owner-occupied and mortgaged houses.

The results of Logistic regression model estimation are reported in Table (1), in which likelihood ratio (LR) and Hosmer-Lemeshow test imply goodness of fit of the model.

The odds ratios (OR) in Table 1 are of probabilistic interpretations. For example, for each year increase in age, the probability of demand for supplementary health insurance in both urban and rural households increases by 1.03 and 1.09 times, respectively. The similar interpretations are applicable for the remaining odds ratios.

The demand for supplementary health insurance is not related to gender of household's head and household size in urban areas. However, in rural areas, as the size of household increases, the higher expenses for housing, clothing, food and transportation reduce demand for supplementary health insurance (5).

In urban households demand for supplementary health insurance in house owner group is higher than tenant group, because rent costs impose additional burden on household income and as a result reduce household ability to pay [for insurance] (6). In rural households, demand for supplementary health insurance has no significant relationship with house ownership, since villagers as house owners or living together households have no extra rent expenses.

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