Reviewer's report

**Title:** Moral hazard and double agents. The agency relationship in drug prescription in the Spanish National Health System.

**Version:** 1  **Date:** 23 January 2011

**Reviewer:** Antonio Sarria-Santamera

**Reviewer's report:**

**Major Compulsory Revisions**

This paper aims to identify the presence and intensity of the agency relationship between general practitioners and patients in Spain. For this purpose, the authors analyze patterns of prescriptions for cardiovascular diseases and mental illnesses in a series of areas in Spain.

The main problem of this work is the information analyzed, which do not include data about age, sex, or clinical condition of the patients. They have information regarding the administrative status of the patients receiving the prescription which is linked to the level of copayment: pensioners (free of charge), and non-pensioners who could be paying full copayment (40%) or reduced copayment.

The main hypothesis of this work is that it would be expected that doctors would prescribe at the same average price for non-pensioners and pensioners, ceteris paribus, which in this case should mean that patients characteristics are comparable. However, this paper assumes that pensioners (which would be much older, therefore sicker) are comparable to non-pensioners (younger people). An explanation to the differences in medicines prescription they have identified is that doctors could treat patients differently based not only on the prices of the medicines, but on the clinical situation of the patients. Another situation that affects prescription in primary care is that has been called “induced prescription”: general practitioners are somehow forced to prescribe medications that have been indicated by specialists. Specialists could have different prescription patterns than family doctors and pensioners (older and sicker people) could be more exposed to this effect than non-pensioners.

The third issue to consider is that the physician agency relationship is based on two factors: the information asymmetry existing in the patient-doctor relationship, and the existence of incentives that induce or persuade the doctors, in this case, to modify their prescribing behavior. Although the authors do mention the possibility of those incentives, they do not seem to be so strong to really explain the differently use of medicines in the groups that are compared.

These comments frame the main recommendation of this review: the data analyzed has serious limitations to be used to test hypothesis. These data could allow for proposing hypothesis that further research could explain. Therefore,
authors should reorient not only the objective but also the tone of the manuscript. Instead of testing the hypothesis of the existence of the agency relationship, the paper should discuss which factors could explain primary care doctors' prescribing behavior and to what extent and in which conditions could be explained by the physician agency relationship.

In another dimension, it has also to be mentioned that the manuscript is too long and too dense, not easy to read. It should be shortened and make more accessible to the reader. Also, tables and figures are not clear.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests