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Insurance loss coverage and demand elasticities

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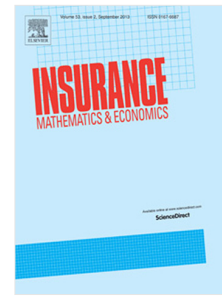
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INSURANCE LOSS COVERAGE AND DEMAND ELASTICITIESBY MINGJIE HAO[†], ANGUS S. MACDONALD[‡], PRADIP TAPADAR[†] AND R. GUY THOMAS[†]

ABSTRACT

Restrictions on insurance risk classification may induce adverse selection, which is usually perceived as a bad outcome. We suggest a counter-argument to this perception in circumstances where modest levels of adverse selection lead to an increase in ‘loss coverage’, defined as expected losses compensated by insurance for the whole population. This happens if the shift in coverage towards higher risks under adverse selection more than offsets the fall in number of individuals insured. The possibility of this outcome depends on insurance demand elasticities for higher and lower risks. We state elasticity conditions which ensure that for any downward-sloping insurance demand functions, loss coverage when all risks are pooled at a common price is higher than under fully risk-differentiated prices. Empirical evidence suggests that these conditions may be realistic for some insurance markets.

KEYWORDS

Adverse selection; loss coverage; elasticity of demand; arc elasticity of demand.

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1. INTRODUCTION

Restrictions on insurance risk classification are common in life and health insurance markets. In the US, the Patient Protection and Affordable Care Act permits classification only by age, location, family size and smoking status; in the European Union, gender classification in insurance pricing has been banned; and many countries have restricted insurers’ use of genetic test results. Whilst such restrictions appear motivated by social objectives, they may also induce adverse selection, which is usually perceived as a bad outcome.

A simple version of the usual argument is as follows. If insurers are not permitted to charge risk-differentiated prices, they have to pool different risks at a common pooled

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