

Pricing Insurance Contracts - An Economic Viewpoint

Doron Kliger, Tel Aviv University and The University of Pennsylvania
Benny Levikson, The University of Haifa

ABSTRACT

This paper presents a new approach for pricing insurance contracts. The approach is based both on economic and probabilistic arguments. The novel property of this paper is that the pricing argument is based on two factors determining the insurer's expected profit: the first one is the net revenue from selling insurance contracts and the second is the possible loss due to insolvency. Our approach stands in contrast to the approach suggested by the actuarial literature where the premium is determined by targeting to a low probability of insolvency, assuming the number of insureds remains constant.

We start with the case of a sole insurer, giving sufficient conditions for existence of an internal optimal solution. We show how to find the optimal premium for a broad class of demand curves, and apply this method for the case of linear demand curves. Then we discuss the case of several insurers. We show that without regulations only one insurer will provide insurance policies. This natural monopoly phenomenon is due to economies to scale. The presence of several insurers is, therefore, an outcome of state regulations, aimed to motivate insurers toward pricing improvements.

