DEPARTAMENTO DE ESTADÍSTICA
E INVESTIGACIÓN OPERATIVA

Instituto de Matemática Interdisciplinar

Seminar

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"On 1-convexity and nucleolus of co-insurance games"

ABSTRACT:

In some practical insurance situations the insurable risks are too heavy to be insured by only one company, for example environmental pollution risk. In such cases several insurance companies cooperate to share the liability and the premium. Then two important practical questions arise: which premium the insurance companies have to charge and how should the companies split the risk and the premium? In Fragnelli and Marina (2004) this problem is approached from the game theoretical point of view and the so-called co-insurance game is introduced. In this paper we study the nonemptiness and the structure of the core and the nucleolus of a co-insurance game with respect to the variable premium value. If the premium is large enough the core is empty. For the premium between some critical bounds the co-insurance game appears to be 1-convex which in turn guarantees the nonemptiness of the core and, moreover, in this case the nucleolus appears to be a linear function of the premium. If 1-convexity does not apply, then for the premium below another critical number we show that a co-insurance game belongs to the class of veto-removed games and construct an efficient final algorithm for computing the nucleolus of a veto-removed game.

Organized by Departamento de Estadística e Investigación Operativa and IMI

Martes, 24 de mayo de 2011 a las 13:00 horas

Seminario Sixto Ríos (aula 215)

Facultad de Ciencias Matemáticas, UCM