

基于Pareto最优风险转换的联合共保模型及其破产概率

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A Coinsurance Model and Ruin Probability: Insights from Pareto Optimal Risk Transferring of Insurance Market

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摘要 本文从联合保险市场Pareto最优风险转换出发, 考虑保险公司不仅是分出再保险自己公司承保的风险, 也可以分入再保险以分保其他公司的风险, 整个保险市场的各公司之间是相互承保的, 形成一个联合共保的市场整体, 依据Borch的市场均衡理论, 建立了保险公司之间联合比例分保模型, 同时给出了风险转移矩阵的基本性质、各保险公司的安全荷载系数、各公司之间相关度以及各保险公司的破产概率, 最后给出了有关联合共保及Pareto最优风险转换的实例分析。

关键词: 再保险 联合共保 Pareto最优 Borch均衡 比例再保险 破产概率

Abstract: In this paper, in terms of optimal risk exchanges, we take it into account that all insurance companies form the insurance market, and that all companies practise outward reinsurance together with inward reinsurance. According to Borch's equilibrium theory of insurance market, we give a simplified coinsurance model of n insurance companies and work out the characteristics of risk transferring matrix, the safety loading coefficients and ruin probability of the companies, and show some co-insurance examples insights from Pareto optimal risk transferring.

Key words: reinsurance Co-insurance Pareto optimality Borch's equilibrium quota-share reinsurance ruin probability

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