

2017 Enterprise Risk Management Symposium

April 20–21, 2017, New Orleans

Competitive Premium Pricing and Cost Savings for Insurance Policyholders: Leveraging Big Data

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Abstract

This paper's purpose is to examine the intersection of research on the effects of insurance risk diversification and availability of big insurance data components for competitive underwriting and premium pricing. We study the combination of physical diversification by geography and insured natural peril with the complexity of aggregate structured insurance products, and how big historical and modeled data components impact product underwriting decisions. Under such market conditions, the availability of big data components facilitates accurate measurement of interdependencies among risks, as well as the definition of optimal and competitive insurance premium at the level of the firm and the policyholders. We extend the discourse to a notional microeconomy and examine the impact of diversification and insurance big data components on the potential for developing strategies for sustainable and economical insurance policy underwriting. We review concepts of parallel and distributed algorithmic computing for big data clustering, mapping and resource-reducing algorithms.

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