

# Analytics of insurance markets

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This talk describes contributions of analytics and statistical methods to our understanding of insurance operations and markets. Specifically, I will introduce insurance analytics, the foundations of the discipline, and the supporting literature.

I will underscore those aspects of insurance analytics where dependencies play a key role. To illustrate, insurance systems are predicated on the pooling of contracts and risk pools benefit from the diversification of risks. This benefit is a function of the dependence relationship among contracts in the pool; analysts seek to quantify this dependency and thus the benefits of diversification. Dependencies also occur in multivariate risks that arise naturally when considering (i) several different types of coverage within a contract, (ii) several contracts that an individual or corporation may purchase, and (iii) contracts hierarchically (over time, space, or within other categories). Quantifying risks in face of these dependencies and identifying appropriate risk control mechanisms are important tasks for the insurance analyst.

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