

The Risk in the Insurance Field: A Generalized Analysis

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Abstract

The current developments in the insurance system and the innovation in the financial sector have highlighted a series of problems connected to the measurement of the risk and the assessment of the global risk has taken on particular importance. The literature on this interesting topic has led to a new approach that allows to decompose the sources of uncertainty that feed the global risk, to understand the importance of each source and to determine its contribution. This article presents an innovative method to calculate some statistical measures, to quantify the relative importance of each source of uncertainty and to allow analysts, therefore, a certain degree of control over the insurance system. To this end, in the paper, some tools are used and analyzed in detail for the assessment of the financial risk related to the management of a portfolio of life insurances policies such as the coefficient of determination and the risk index of the portfolio, with particular regard to the contribution offered by the pooling risk. In addition, it is shown a measurement of the Arrow-Pratt risk premium, with respect to the demographic risk and the overall market risk, proving that for a risk averse insurer with a certain wealth the two values are in direct proportionality relation.

Keywords

Risk Decomposition, Risk Pooling, Demographic Risk, Coefficient of Determination, Standard Deviation, Risk Index

1. Introduction

In the economic-financial context in which banks, companies and financial intermediaries currently operate, crises and corporate restructuring have placed great attention on the problem of the risk assessment, control and management,