

A Comparison of Property-Liability Insurance Financial Pricing Models

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Abstract

Over the last several decades, a number of property-liability insurance pricing models which attempt to integrate underwriting and investment performance considerations have been proposed. Several of these models have undergone extensive theoretical development, and some have actually been applied in practice by companies, regulators, and/or rating bureaus. Generally, empirical tests of these models have involved examining how well the models fit historical data at an industry level. This paper demonstrates how to apply a variety of property-liability insurance financial pricing techniques to a single hypothetical, but representative, company. Both company and economic parameters are varied in order to examine the sensitivity of indicated underwriting profit margins from these techniques to different company situations and economic environments, and to highlight the differences between the techniques at a practical level. This paper is also structured to serve as a practical guide for applying these models, in order to encourage more widespread use of these approaches.

